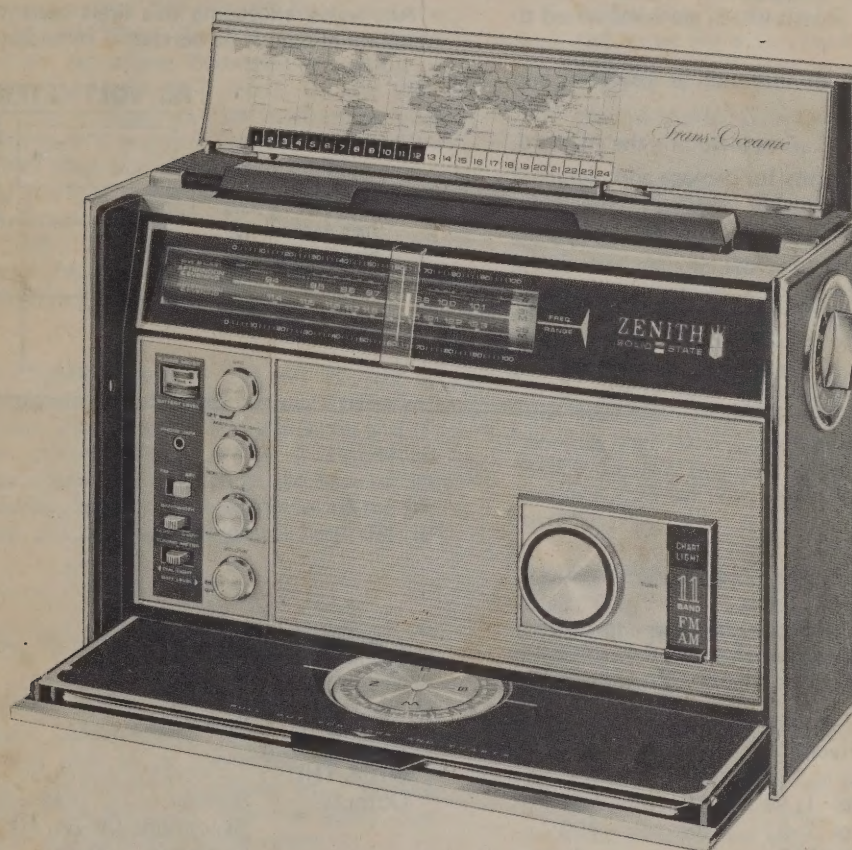




SERVICE MANUAL



MODELS "ROYAL D7000 AND ROYAL D7000-1"

"TRANSOCEANIC"®

CHASSIS 500MDR70

SOLID STATE AC/BATTERY PORTABLE

LW/AM/FM/SW/WB RADIO

ZENITH RADIO CORPORATION

1900 N. AUSTIN AVENUE

CHICAGO, ILLINOIS 60639

To the Service Technician

PRODUCT SAFETY SERVICING GUIDELINES FOR ALL AUDIO AMPLIFIERS AND RADIO RECEIVERS

CAUTION: No modification of the circuit should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following precautions. To do otherwise increases the risk of potential hazards and injury to the user.

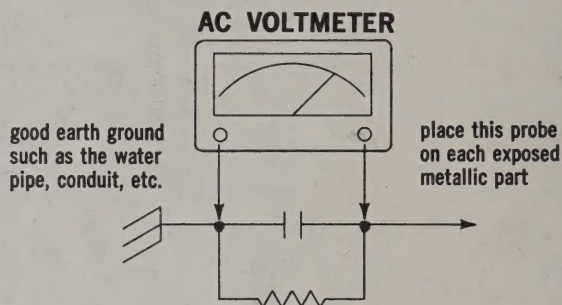
SAFETY CHECKS

SUBJECT: Fire & Shock Hazard

1. Be sure that all components are positioned in such a way to avoid possibility of adjacent components shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Always replace all protective devices such as insulators and barriers after working on a set.
3. Check for frayed insulation on wires including the AC cord.
4. Check across-the-line components for damage and replace if necessary.
5. After re-assembly of the set always perform an AC leakage test on the exposed metallic parts of the cabinet such as the knobs, antenna terminals, etc. to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following

manner: Connect a 1500 ohm 10 watt resistor, paralleled by .15 mfd. AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination 1500 ohm resistor and .15 mfd. capacitor. Reverse the AC plug on the set and repeat AC voltage measurements again for each exposed metallic part. Voltage measured must not exceed .3 volts RMS. This corresponds to 0.2 milliamp AC.

Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



SPECIFICATIONS

Power Supply ----- AC ----- 115/230V, 50/60 Hertz
 Battery ---9, Type Z4NL, 1-1/2 V, "D" Cells
 (1 cell powers dial and chart lights).
 Current Drain—No signal condition with volume control at min.
 Approximately 27 milliamperes

Frequency Ranges -----	Band	Meters	Megahertz
VHF	1.83 to 1.86	161 to 164	
FM	3.4 to 2.8	88 to 108	
LW	2000 to 750	.15 to .4	
BC	555 to 188	.54 to 1.6	
SW 1	188 to 85	1.6 to 3.5	
SW 2	85 to 33	3.5 to 9.0	
31	31	9.4 to 10.1	
25	25	11.4 to 12.3	
19	19	14.6 to 15.8	
16	16	17.1 to 18.5	
13	13	20.6 to 22.4	

Intermediate Frequency -- FM ----- 10.7 MHz
 AM ----- 455 KHz

Sensitivity (Approx.) --- Referenced to .05 watt output above noise. All bands measured with tone control at maximum and Normal/Sharp switch in NORMAL, and Manual Gain in NORMAL position.

VHF (16.0 KHz deviation)	2.0	microvolts
FM (22.5 KHz deviation)	2.0	microvolts
LW	75	microvolts/m
BC	20	microvolts/m
SW1	3.0	microvolts
SW2	2.5	microvolts

31	-----	1.0	microvolts
25	-----	2.0	microvolts
19	-----	2.0	microvolts
16	-----	2.0	microvolts
13	-----	2.0	microvolts

Antennas Waverod (in top of cabinet back — all except BC/LW
 BC/LW Wavemagnet® (in cabinet) — BC/LW only
 External ----- All except VHF
 Power Output @10% THD ----- 500 milliwatts
 Outputs ----- Speaker ----- 4x6 inch 22 ohms at 400 Hertz
 Headphone (39-34, optional) 8 ohms at 400 "
 Earphone (39-75) 8 ohms at 400 "

CAUTION:

1. When adjustments are made on these chassis, a line isolation transformer (120-V input to 120-V output) is recommended in order to avoid a shock hazard. If an isolation transformer is not available, check the AC voltage between chassis and bench ground; and if there is any indication of line voltage, reverse the plug before handling the set.
2. Do not operate without proper speaker load.
3. Do not short out the audio output when power is connected.
4. If the receiver is not to be operated on batteries for several weeks, the batteries should be removed.
5. Matched transistors are used in the output stage. Should one transistor fail, both transistors must be replaced, since they will not perform properly unless matched.
6. If a power transistor fails be certain to replace the emitter resistors. Also be certain to check the condition of the rectifiers, and related components.

CIRCUIT DESCRIPTION

Model RD7000-1 is basically identical to RD7000 except for the addition of a thermal circuit breaker which will provide protection should the receiver be connected to an incorrect power source, or for any other condition which could possibly damage the power supply. When the circuit breaker "opens", it will cut off all power to the receiver for approximately 15 minutes. After this time it will automatically reset, restoring power to the receiver. If the circuit breaker cuts out again within a few minutes, check the voltage selector switch (See Figure 4, Item 29, in the Operating Guide) to be certain that it is set to the correct voltage position. In the event this fails to correct the condition, contact a qualified service technician.

Separate tuners are used on the FM (88-108 MHz) and the VHF Weather Band (161-164 MHz). The FM tuner consists of a RF amplifier and an Autodyne Converter operating in common base circuits. CR1 is the AFC diode. On the VHF Band the RF and Oscillator stages operate in common base circuits, while the Mixer is a common emitter circuit. The VHF VFO operates 10.7 MHz below the reception frequency. AFC is not applied to the VHF tuner. AGC for both tuners is obtained from the collector of the 2nd IF, via a small value capacitor, to diode CR201, and then to the base of the RF transistor as reverse bias. Two matched diodes located in T208 form part of the Ratio Detector circuit.

On AM the RF stage is common base for LW and BC, but is common emitter for all other bands (SW1 thru 31M). The Oscillator uses a common base circuit, while the Mixer and IF stages are in common emitter circuits. AM AGC is obtained from the AM Detector diode and supplied to the base of the RF transistor. AGC is then taken from the emitter of the RF transistor and fed to the base of the mixer and 1st IF transistors.

Audio circuitry is common to all bands and consists of 1st Audio, Pre-Driver, Driver, and diode biased class "B" push-pull complementary symmetry Output stage consisting of one NPN and one PNP transistor. An output jack, located on the upper part of the cabinet back, connected to the output of the 1st audio stage, permits this unit to be connected to external amplifiers. Gain of the Pre-Driver is increased when on the VHF band to compensate for the lower recovered audio, due to the reduced deviation of VHF Band transmissions.

This set can be operated from either 115 or 230 Volt AC sources. A switch, provided inside the set must be set to the desired voltage. In addition this set can be operated on 9, 1½ Volt "D" Cells (one cell only powers the Dial and Chart Lights, and must be installed if it is desired to use these lights while on AC operation). Automatic switching between AC and Battery operation is achieved by inserting the AC Cable into a socket located on the cabinet back.

TROUBLE SHOOTING AND SIGNAL TRACING

The old technique of "screwdriver testing" is definitely not recommended while trouble shooting any solid state product. In that method various circuit points were touched or shorted to ground to cause a hum or click in the speaker. This must be avoided because a solid state component can be destroyed if excessive voltage or if wrong polarity is applied.

Only standard point to point signal tracing with the proper RF, IF, and Audio Signal Sources should be used.

AM OSCILLATOR BIAS ADJUSTMENT

Stability of the AM Oscillator may be maintained over a wide range of battery supply voltage's. If a variable DC voltage supply is available adjustment may be made as follows:

1. Set Manual Gain Control to maximum clockwise position.
2. Rotate Band Switch to 13 meter position.
3. Connect the positive end of a 4½ volt battery to Test Point 3 while the negative end is connected in series with a volt meter. The other end of the meter is connected to Test Point 6. There should be a meter reading of approximately 0.5 to 1.0 volt.
4. Adjust Bias Control R118 for minimum voltage change on the meter while varying the DC supply between 8 and 12 volts.
5. Return Manual Gain Control to the Normal position.

BATTERY LEVEL METER ADJUSTMENT

This receiver is equipped with a combination Tuning and Battery Level Meter which will indicate the condition of the batteries being used. A meter reading in the blue section indicates good batteries. Under normal conditions no adjustment should be necessary. If the meter has been replaced or other repairs made which affect the meter circuit, adjustment may be made as follows. Use a supply of 9 volts and while holding the "Dial Light/Battery Level" switch in the BATTERY LEVEL position adjust control R507 so that the meter pointer lines up with the left edge of the blue section of the meter.

ALIGNMENT

Alignment wrenches, Zenith part number 68-32, 68-35, and 68-45 may be used for aligning this receiver. Charts for proper alignment are included in this service manual.

CHASSIS REMOVAL INSTRUCTIONS

To remove this chassis it will first be necessary to remove the B.F.O., Manual Gain, Tone, Volume and Tuning Knobs from the front panel. A set screw holds the Band Selector knob in place, and will be visible, from the rear, when in the 19M position. Loosen screw and remove knob. The chassis is mounted by five (5) screws. (See chassis layout drawing for location). Remove the screws and also the bracket secured by the three (3) right hand screws. Disconnect the speaker and chart light leads. The chassis is now free to be removed. *Note* — be certain to replace the bracket and screws when replacing chassis.

DIAL LIGHT REPLACEMENT

The dial light assembly is mounted to the dial scale drum by two screws. Lights may be replaced in the following manner. Remove cabinet back. Rotate Band Selector to BC position. Remove shield by *loosening* right hand screw (long) and remove the left hand screw. Lift shield out noting proper position. The dial drum will now be visible through a rectangular cut out at the top of the chassis. Remove the two screws (one at each end of the dial light assembly). Lift plate. These lights are Part Number 100-218.

Replace shield by inserting end tab in to ¼" hole in end of chassis and the folded tab over chassis. Replace left screw and tighten right hand screw.

ALIGNMENT PROCEDURE

STEP NO.	CONNECT GENERATOR TO	INPUT SIGNAL FREQUENCY	BAND	DIAL FREQUENCY	ADJUST	PURPOSE
NOTE - Perform A.M. I.F. and B.F.O. alignment with bandwidth switch in sharp position, manual gain control off. Connect meter across speaker voice coil.						
1	Test Point "5"	455 KHz	BC	1600 KHz	T201, T202, T204 T205, T207, T209	Align A.M. I.F. for max.
NOTE - Turn B.F.O. Control ON and set to mid rotation with bandwidth switch in sharp.						
2*	Test Point "5"	455 KHz	BC	1600 KHz	T210	Adjust BFO for zero beat.
NOTE - Place bandwidth switch to normal and turn B.F.O. to off.						
3*	One turn loop loosely coupled to wavemagnet	1620 KHz	BC	1620 KHz Gang Open	C119C	Set B.C. oscillator to scale
4*		600 KHz	BC	600 KHz	C136	
5		Repeat steps 3 and 4 until minimum change				
6*		1420 KHz	BC	1420 KHz	C112, C119A	Align B.C. antenna and mixer for maximum
7*		600 KHz	BC	600 KHz	L122A	
8*		Repeat steps 6 and 7 until minimum change				
9*		405 KHz	LW	405 KHz Gang Open	C119D	Set L.W. Oscillator to scale.
10*		160 KHz	LW	160 KHz	C119E	
11		Repeat steps 9 and 10 until minimum change				
12*		375 KHz	LW	375 KHz	C113, C119B	Align L.W. Antenna and mixer for maximum
13*		160 KHz	LW	160 KHz	L122B	
14		Repeat steps 12 and 13 until minimum change				
NOTE - Align F.M. with A.F.C. switch off.						
15	Test Point "B" (* *)	10.7 MHz modulated	FM	98 MHz	T5, T203, T206, and top of T208	Align F.M. I.F. and Ratio Detector Pri. Connect meter across voice coil and reduce input so output will not be greater than 0.4 volts.
16		10.7 MHz modulated	FM	98 MHz	Bottom of T208	Align FM Ratio Detector or Sec. Place meter probe on pin 6 of T208 and adjust bottom of T208 to zero after determining that there is a symmetrical swing around this zero point.
17		Repeat steps 15 and 16 until minimum change				
18	FM Antenna Terminals (* *)	98 MHz modulated	FM	98 MHz	L7	Set FM Oscillator to scale-meter across voice coil.
19		98 MHz modulated	FM	98 MHz	L3, L5	Align FM antenna and detector for maximum
20		164 MHz	VHF	164 MHz	T4, T1, T2, T3	Align VHF
21		161 MHz	VHF	161 MHz	C130	Set VHF Oscillator to scale.
22		164 MHz	VHF	164 MHz	T4	
23		Repeat steps 21 and 22 until minimum change				
24		161 MHz	VHF	161 MHz	T2	Adjust T2 for equal output at 161 MHz and 164 MHz.
25		164 MHz	VHF	164 MHz	T2	
26		Repeat steps 24 and 25 until minimum change				
27	3 feet of wire approximately 1 foot from and parallel to Extended Waverod.	3.4 MHz	SW1	3.4 MHz	C114F	Set SW1 Oscillator to scale
28		1.8 MHz	SW1	1.8 MHz	L129	
29		Repeat steps 27 and 28 until minimum change				
30		3.4 MHz	SW1	3.4 MHz	C114B, C114D	Align SW1 Antenna & mixer for maximum
31		1.8 MHz	SW1	1.8 MHz	L120, L113	
32		Repeat steps 30 and 31 until minimum change				
33		8.75 MHz	SW2	8.75 MHz	C114E	Set SW2 Oscillator to scale.
34		3.9 MHz	SW2	3.9 MHz	L128	
35		Repeat steps 33 and 34 until minimum change				
36		8.75 MHz	SW2	8.75 MHz	C114A, C114C	Align SW2 Antenna & mixer for maximum
37		3.9 MHz	SW2	3.9 MHz	L112, L119	
38		Repeat steps 36 and 37 until minimum change				
39		9.7 MHz	31M	9.7 MHz	L110, L118, L127	Align 31M, 25M, 19M, 16M, and 13M Oscillator, Antenna and Mixer.
40		11.8 MHz	25M	11.8 MHz	L109, L117, L126	
41		15.2 MHz	19M	15.2 MHz	L108, L116, L125	
42		17.8 MHz	16M	17.8 MHz	L107, L115, L124	
43		21.6 MHz	13M	21.6 MHz	L106, L114, L123	

* Rock Tuning Capacitor when making adjustment.

** Probe from generator should be isolated through a .05 MFD Capacitor.

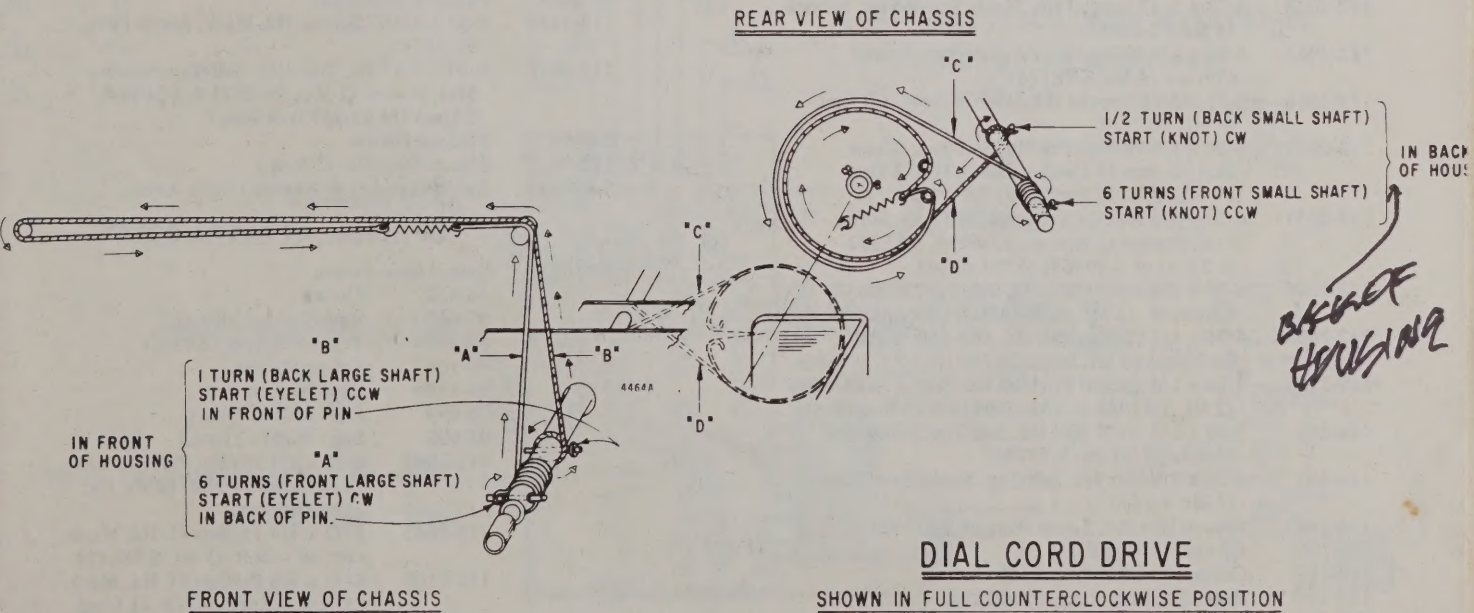
*** Probe from generator should be terminated with the proper resistor to match 72 ohm line output impedance.

NO.	TRANSISTOR CHART
Q1	121-692 WB RF
Q2	121-692 WB MIXER
Q3	121-692 WB OSCILLATOR
Q4	121-687 RF TRANSISTOR (FM)
Q5	121-687 OSCILLATOR MIXER (FM)
Q101	121-871 RF (AM)
Q102	121-872 MIXER (AM)
Q103	121-872 OSCILLATOR (AM)
Q201	121-872 1st. IF TRANSISTOR (AM-FM)
Q202	121-872 2nd IF TRANSISTOR (AM-FM)
Q203	121-872 3rd IF TRANSISTOR (AM-FM)
Q204	121-872 BFO
Q401	121-430 1st. AUDIO
Q402	121-430 PRE-DRIVER
Q403	121-441 DRIVER
Q404	121-678 OUTPUT (NPN) } MATCHED PAIR
Q405	121-679 OUTPUT (PNP) }
Q501	121-701 VOLTAGE REGULATOR

NO.	TRIMMER CHART
C112	BROADCAST ANTENNA TRIMMER
C113	LONG WAVE ANTENNA TRIMMER
C114 (A)	SW2 ANTENNA TRIMMER
C114 (B)	SW1 ANTENNA TRIMMER
C114 (C)	SW2 MIXER TRIMMER
C114 (D)	SW1 MIXER TRIMMER
C114 (E)	SW2 OSCILLATOR TRIMMER
C114 (F)	SW1 OSCILLATOR TRIMMER
C119 (A)	BROADCAST MIXER TRIMMER
C119 (B)	LONG WAVE MIXER TRIMMER
C119 (C)	BROADCAST OSCILLATOR TRIMMER
C119 (D)	LONG WAVE OSCILLATOR TRIMMER
C119 (E)	LONG WAVE OSCILLATOR PADDER
C130	VHF OSCILLATOR TRIMMER
C136	BROADCAST OSCILLATOR PADDER

NO.	COIL CHART
L102	ANTENNA (LW AND BC)
L106	13M ANTENNA COIL (TOP)
L107	16M ANTENNA COIL (BOTTOM)
L108	19M ANTENNA COIL (TOP)
L109	25M ANTENNA COIL (BOTTOM)
L110	31M ANTENNA COIL (TOP)
L112	SW2 ANTENNA COIL (BOTTOM)
L113	SW1 ANTENNA COIL (TOP)
L114	13M MIXER COIL (TOP)
L115	16M MIXER COIL (TOP)
L116	19M MIXER COIL (TOP)
L117	25M MIXER COIL (TOP)
L118	31M MIXER COIL (TOP)
L119	SW2 MIXER COIL (TOP)
L120	SW1 MIXER COIL (TOP)
L122A	BC MIXER COIL (TOP)
L122B	LW MIXER COIL (BOTTOM)
L123	13M OSCILLATOR COIL (BOTTOM)
L124	16M OSCILLATOR COIL (BOTTOM)
L125	19M OSCILLATOR COIL (BOTTOM)
L126	25M OSCILLATOR COIL (BOTTOM)
L127	31M OSCILLATOR COIL (BOTTOM)
L128	SW2 OSCILLATOR COIL (BOTTOM)
L129	SW1 OSCILLATOR COIL (BOTTOM)
L130A	BC OSCILLATOR COIL (BOTTOM)
L130B	LW OSCILLATOR COIL (TOP)
L201	2nd IF TRANSFORMER PRIMARY (TOP)
L202	2nd IF TRANSFORMER SECONDARY (BOTTOM) } T203
L204	3rd IF TRANSFORMER PRIMARY (TOP)
L205	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T206
L206	3rd IF TRANSFORMER PRIMARY (TOP)
L207	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T207
L209	RATIO DETECTOR TRANSFORMER PRI (BOTTOM) } T208
L210	RATIO DETECTOR TRANSFORMER (TOP)

NO.	TRANSFORMER CHART
T1	RF INPUT TRANSFORMER (WB)
T2	RF OUTPUT TRANSFORMER (WB)
T3	10.7 MHZ IF TRANSFORMER (WB)
T4	OSCILLATOR TRANSFORMER (WB)
T5	1st IF TRANSFORMER (FM)
T201	1st IF PRIMARY (AM)
T202	1st IF SECONDARY (AM)
T203	2nd IF TRANSFORMER (FM)
T204	2nd IF TRANSFORMER PRIMARY (AM)
T205	2nd IF TRANSFORMER SECONDARY (AM)
T206	3rd IF TRANSFORMER (FM)
T207	3rd IF TRANSFORMER (AM)
T208	RATIO DETECTOR TRANSFORMER (FM)
T209	4th IF TRANSFORMER PRIMARY (AM)
T201	BFO TRANSFORMER



PART NO.	DESCRIPTION
83-6544	Trim Strip (Part of S-78794)
83-6545	Trim Strip (Part of S-78794)
83-6574	Tuning Escutcheon Trim Strip (Part of S-78792)
83-6575	Chart Light Trim Strip (Part of S-78791)
83-7000	Lower Door Trim Strip (Part of S-91088)
83-7006	Protective Strip (Used on S-85392)
83-7420	Slide Switch Strip (Part of S-80963)
*83-7628	Grille Backing Strip (Cabinet Assem.)
*83-7629	Protective Cover Strip (Cabinet Assem.)
*83-8290	Insulating Strip Without Perforation (Cabinet Assembly)
85-1043	Slide Switch (Part of S-85392)
86-221	Terminal (Used on Black Wire)
86-232	Spade Terminal (2 Required)
93-799	Brass Washer (2 Part of S-85392)
93-1289	3/16 x 7/16 x 1/32 Thick Fibre Washer (Joins 15-108 & 78-1101)
93-1794	.082 x 1/4 x .015 Thick Brass Washer (1 Part of ea. S-78766) (2 Req.)
93-1818	Shoulder Washer (3 Joins S-80963 & S-85392)
*93-1863	Vinyl Washer (Part of 46-9437)
93-1884	Spring Washer (Part of S-91089)
*93-1892	Finish Washer (Used on Jack & Plug)
*94-1549	Bushing (Cover Panel) (Part of S-90896)
96-696	Pivot Leg (1 Part of ea. S-78766)
97-812	Stud (Part of S-78786)
*97-832	Stud (Part of S-91089)
*97-851	Shoulder Stud (Part of S-85389)
100-218	Chart Light Lamp - GE No. 123
*101-4976	Transistor Layout & Patent Label
*110-607	Grille Cloth (Part of S-85392)
112-320	6-20 x 3/8 Pan Hd. Self-Tap. Screw-Stat. Bronze (Joins 43-965 & 1-19)
112-1124	4-24 x 11/32 Special Fillister Hd. Self-Tap. Screw - Black Zinc Plate (4 Used on S-78786)
112-1376	4-24 x 3/8 Phillips Pan Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. S-85392)
112-1438	6-32 x 5/16 Special Hd. Mach. Screw (4 used on 57-6708, 5 Mt. S-85389 & 6Mt. S-85390)
112-1714	6-32 x 3/16 Phillips Pan Hd. Mach. Screw - Cadmium (4 Join 83-6544 & S-78794)
112-1865	6-20 x 7/16 Phillips Pan Hd. Self-Tap. Screw - Cadmium (1 Mts. 500MDR70)
112-1865	6-20 x 7/16 Phillips Pan Hd. Self-Tap. Screw - Cadmium (1 Mts. 500MDR70)
112-2032	6-20 x 7/16 Special Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. Ea. 166-193) (4 Required)
112-2038	6-32 x 5/32 Special Hd. Mach. Screw-Stat. Bronze (4 Mt. 57-6658)
112-2065	4-24 x 1/4 Phillips Fl. Hd. Self-Tap. Screw-Chrome (4 Mt. S-78774)
112-2066	6-32 x 5/16 Special Hd. Mach. Screw - Chrome (4 Mt. 36-710)
112-2071	4-24 x 1/4 Phillips Pan Hd. Self-Tap. Screw - Stat. Bronze (1 Used on 80-1091 & 2 Used on 83-7006) (3 Required)
112-2072	6-20 x 3/8 Phillips Truss Hd. Self-Tap. Screw - Stat. Bronze (1 Mts. ea. 57-6994, S-85392 & 3 Part of S-80963) (6 Required)
112-2096	6-20 x 3/8 Phillips Fl. Hd. Self-Tap. Screw - Cadmium (2 Mt. ea. S-78766) (4 Required)
112-2097	6-20 x 1/2 Phillips Pan Hd. Self-Tap. Screw - Cadmium (3 Mt. 500MDR70)
*112-2122	4-24 x 1/4 Special Fl. Trim Hd. Screw - Cadmium (2 Mt. S-91088 & 6 Mt. S-91160) (8 Required)
114-811	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. ea. S-78786)
114-813	6-20 x 3/8 Hex Hd. Self-Tap. Screw-Stat. Bronze (4 Mt. S-78777)
114-1095	Special Hex Hd. Screw (Part of S-85392)
*166-105	Bumper (4 Required)
166-193	Cabinet Foot (4 Required)
188-140	Retaining Ring (Part of S-90896)
188-155	Knob Clamping Ring (Part of 46-7382)
188-168	Retaining Ring (1 Joins ea. 46-6251 & S-78786) (2 Required)
188-441	Knob Clamping Ring (Part of 46-6361 or 46-6828)
189-372	Plastic Bag
189-377	Envelope (For 57-6801)

*Denotes Parts Not Previously Used.

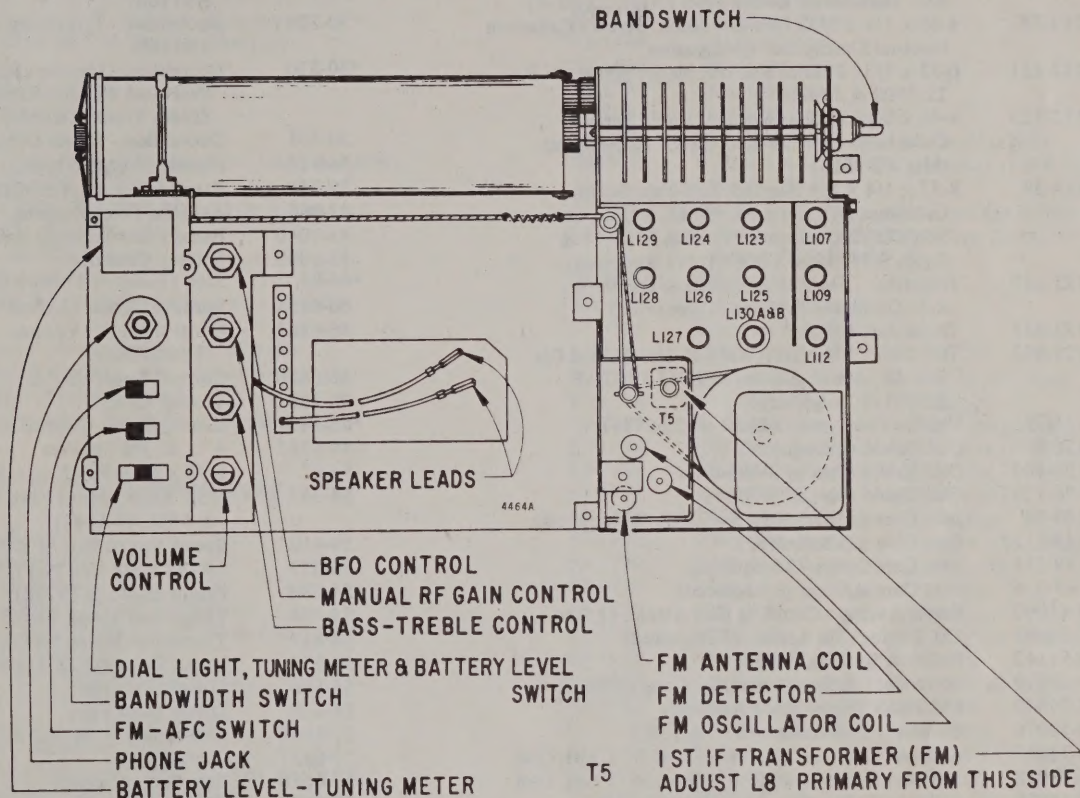
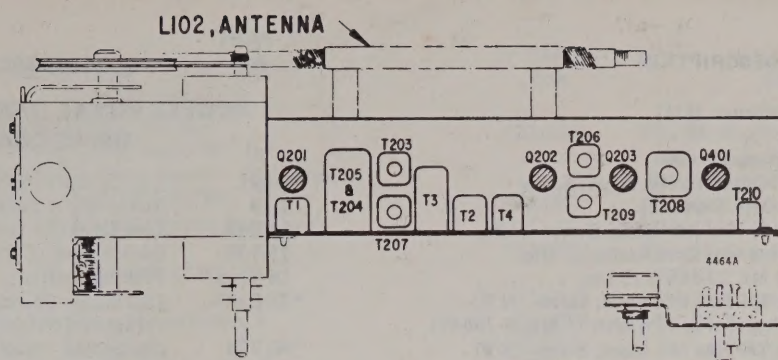
PART NO.	DESCRIPTION
192-418	Dial Crystal
199-466	Antenna Sleeve
*202-3433	Short Wave Chart Book
*202-3442	Instruction Book
*202-3443	Specifications Booklet, Operating
*202-3444	Service Manual Instruction Book (RD7000Y only)
*202-3658	Operating Guide Supplement. (RD7000Y-1 only)
*202-3659	Service Manual
*203-1399	Registration Card
220-142	Packing Cushioning Material (3 Required)
S-78766	Handle Swivel Assembly (2 Required)
S-78772	Chart Light Door & Socket Assembly (Part of S-78773)
S-78773	Chart Light & Tuning Escutcheon Assembly (Part of S-91160)
S-78777	Antenna & Sleeve Assembly
S-78778	Contact Spring & Strip Assembly - R.H.
S-78779	Contact Spring & Strip Assembly - L.H.
S-78786	Bracket & Stud Assembly (2 Required)
S-78791	Chart Light & Trim Strip Assembly
S-78792	Tuning Escutcheon & Trim Strip Assembly
S-78794	Upper Door & Trim Assembly
S-80527	Map Housing & Crystal Assem. (Trans-Oceanic - Zone Time)
S-80963	Plate & Stud Assem.
*S-85389	Cabinet End Plate Assem. - R.H.
*S-85390	Cabinet End Plate Assem. - L.H.
*S-85392	Cabinet Back Assem.
*S-85394	Lower Door & Trim Assem.
*S-90896	Battery Cover Assem.
*S-91088	Lower Door & Trim Assem. (Control Cover & Decoration)
*S-91089	Dial Scale Assem. (Compass Circular)
*S-91160	Main Cabinet & Trim Assem.

POWER SUPPLY COMPONENTS

22-4617	.01 MF
*22-6316	500 MF Electrolytic - 1 Section - 500V.
*23-38	Splice Cap. (RD7000Y-1 only)
63-1708	15 Ohm Resistor - 1/2 W. 10%
63-1932	3.3 Megohm Resistor - 1/2 W. 10%
79-174-12	No. 18 Sleeving - Yellow - 1- 1/2"
83-3672	8 Lug Terminal Strip (Part of S-80964)
85-818	Slide Switch (Part Of S-80964)
*85-1393	Circuit Breaker, Thermal, Self-Setting (RD7000Y-1 only)
86-512	Miniature Contacts (Wire Retaining Pin)
95-2671	Power Transformer
112-1438	6-32 x 5/16" Special Hd. Mach. Screw (Mts. 95-2671)
112-2072	6-20 x 3/8" Ph. Truss Hd. Self-Tap. Screw - Stat. Bronze (1 Mts. 95-2671 & S-80964, 2 Used On 83-3672) (4 Req.)
205-51	Silicone Grease
212-76	Silicon Rectifier (2 Req.)
S-80964	Switch Bracket & Terminal Strip Assem.

"OPTIONAL AT EXTRA COST"

S-75893	Swivel Base Assem.
16-3527	Carton
57-6620	Base Support (Ring)
80-2034	Tension Spring (2 Req.)
93-1682	Spring Washer
93-1790	Base Washer
96-694	Leg - Left (2 Req.)
96-695	Leg - Right (2 Req.)
112-2041	6-18 x 1/4 Phillips Pan Hd. Self-Tap. Screw - N.P. (2 Mt. Ea. Leg Support)
112-2043	8-32 x 1/4 Phillips Fl. Hd. Mach. Screw - N.P. (3 Mt. S-78811)
112-2109	6-32 x 3/8 Phillips Fl. Hd. Mach. Screw - Spec. - N.P. (1 Used On Ea. 96-694 & 96-695) (4 Req.)
188-140	Retaining Ring
199-464	Spacer Sleeve (1 Used On Ea. 96-694 & 96-695) (4 Req.)
202-3070	Instruction Sheet
S-78811	Swivel Base Plate Assem. (Top)

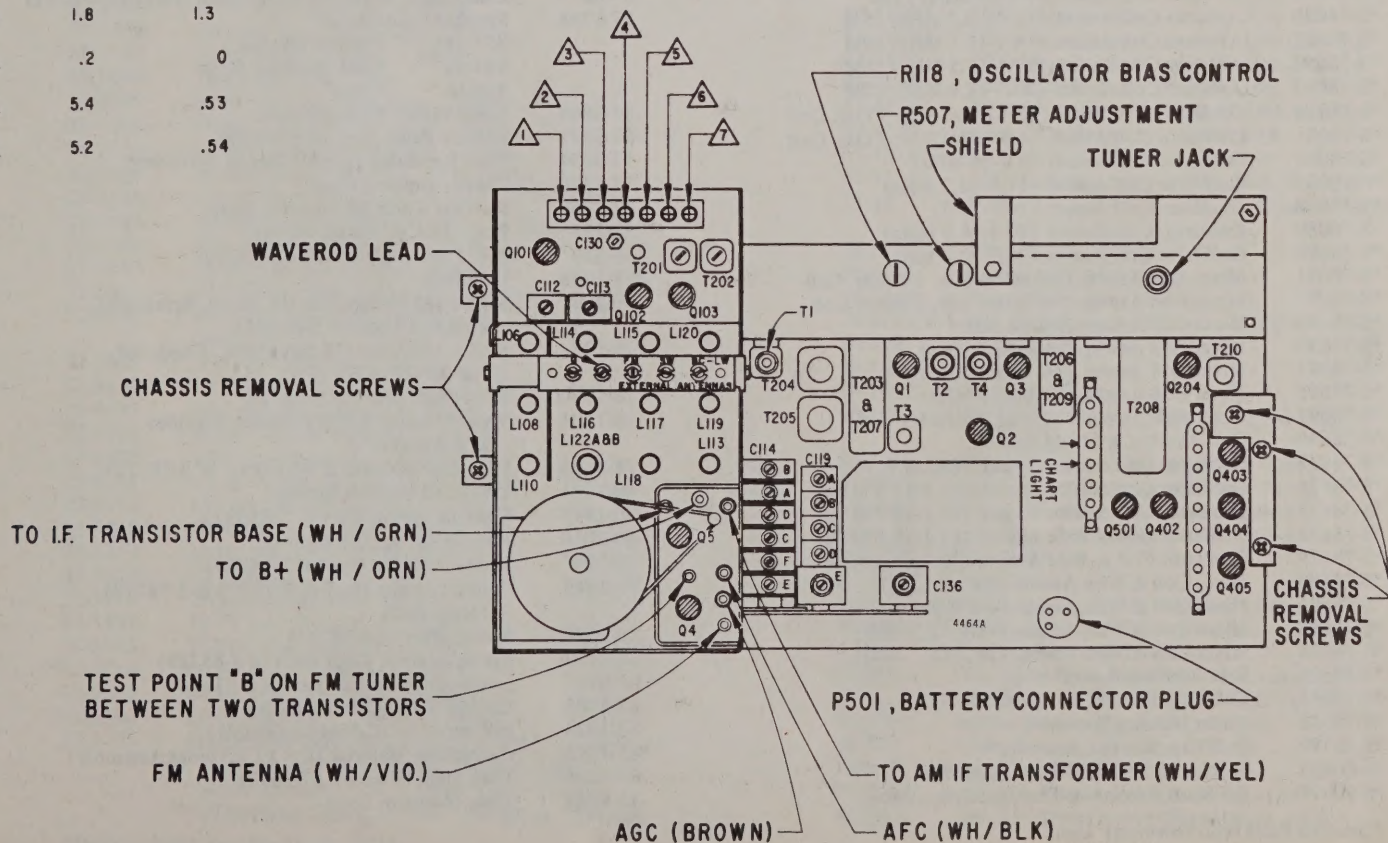


TEST POINT VOLTAGES

(NO SIGNAL)

	AM	FM
1	1.75	.85
2	2.5	1.5
3	.03	0
4	1.8	1.3
5	.2	0
6	5.4	.53
7	5.2	.54

NG



PART NO.	DESCRIPTION
*95-2609	1st. I.F. Transformer (FM)
103-39	Diode, AFC
112-1373	Trimmer, Adjusting Screw
112-1467	2-56 x 5/16 Phillips Pan Hd. Mach. Screw - Cadmium (1 Mts. S-64842)
113-8	6-32 x 1/4 x 1/4 Hex Hd: Mach. Screw - N.P. - Internal Shakeproof Lockwasher (1 Mts. 22-5705 & 2 Mt. 22-5861) (3 Req.)
113-10	6-32 x 3/16 x 1/4 Hex Hd. Mach. Screw - N.P. - Internal Shakeproof Lockwasher (1 Mts. S-78649)
113-13	6-32 x 7/16 x 1/4 Hex Hd. Mach. Screw - N.P. - Ext. Shakeproof Lockwasher (3 Mt. 22-6874)
113-33	4-40 x 1/4 x 7/32 Hex Hd. Mach. Screw - Cadmium Internal Shakeproof Lockwasher
113-121	6-32 x 7/32 Phillips Rd. Hd. Mach. Screw - N.P. 22-3902 & 57-6867)
113-123	4-40 x 3/16 Phillips Rd. Hd. Mach. Screw - Cadmium - Internal Shakeproof Lockwasher (Mts. 12-3515)
114-39	8-32 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw - Cadmium (1 Uded on S-78743, 4 Used on S-90975, 2 Used on S-79040 & 57-6678 & 2 join S-78743 & S-80653) (11 Required)
*121-687	Transistor - FM/AM Amplifier & Oscillator - R.F. Oscillator & Mixer (2 Required)
*121-871	Transistor, AM/RF
*121-872	Transistor, AM Mixer, AM-FM 1st. IF, AM-FM 2nd, IF, AM Oscillator, AM-FM 3 RD. IF & BFO (6 Required)
125-94	Rubber Grommet (3 Used on 22-6784)
126-857	Coil Shield (2 Required)
126-1027	Coil Shield (Part of S-78649)
*126-1331	Coil Shield (Part of S-78649)
149-74	Iron Core (1 Part of ea. S-45000) (2 Required)
149-211	Iron Core (25 Required)
149-311	Iron Core Sleeve (2 Required)
149-316	Iron Core & Pring (3 Required)
S-45000	Series Antenna Coupling Coil Assem. (2 Req.)
S-58095	FM Tuning Coil Assem. (3 Required)
S-58142	Pulley & Bushing Assem.
S-58179	Drive Cord & Eyelet Assem. - Gang (2 Req.)
S-64842	FM Tuner Driver Shaft Assembly
*S-78076	Oscillator Coil Assem. (B.C. & L.W.)
*S-78077	Antenna Coil Assem. (2-4 MHz) S.W. 1 Ant. Coil
*S-78078	Antenna Coil Assem. (4-9 MHz) S.W. 2 Ant. Coil
*S-78079	Antenna Coil Assem. (9.4-10 MHz) 31M
*S-78080	Antenna Coil Assem. (11.4-12.2 MHz) 25M
*S-78081	Antenna Coil Assem. (14.7-15.7 MHz) 19M
*S-78082	Antenna Coil Assem. (17.1-18.5 MHz) 16M
*S-78083	Antenna Coil Assem. (20.7-22.4 MHz) 13M
*S-78084	Oscillator Coil Assem. (2-4 MHz) S.W. 1 Osc. Coil
*S-78085	Oscillator Coil Assem. (4-9 MHz) S.W. 2 Osc. Coil
*S-78086	Oscillator Coil Assem. (9.4-10 MHz)
*S-78087	Oscillator Coil Assem. (11.4-12.2 MHz)
*S-78088	Oscillator Coil Assem. (14.7-15.7)
*S-78089	Oscillator Coil Assem. (17.1-18.5 MHz)
*S-78090	Oscillator Coil Assem. (20.7-22.4 MHz)
*S-78091	Mixer Coil Assem. (2-4 MHz) S.W. 1 Mixer Coil
*S-78092	Mixer Coil Assem. (4-9 MHz) S.W. 2 Mixer Coil
*S-78093	Mixer Coil Assem. (9-4-10 MHz)
*S-78094	Mixer Coil Assem. (11.4-12.2 MHz)
*S-78095	Mixer Coil Assem. (14.7-15.7 MHz)
*S-78096	Mixer Coil Assem. (17.1-18.5 MHz)
*S-78097	Mixer Coil Assem. (20.7-22.4 MHz)
*S-78649	Coil, Bracket & Shield Assem.
*S-78672	Oscillator Coil & Wire Assem. (B.C. & L.W.)
*S-78676	Oscillator Coil & Wire Assem. (11.4-12.2 MHz)
*S-78677	Oscillator Coil & Wire Assem. (14.7-15.7 MHz)
*S-78678	Oscillator Coil & Wire Assem. (17.1-18.5 MHz)
*S-78679	Oscillator Coil & Wire Assem. (20.7-22.4 MHz)
*S-78689	Mixer Coil & Wire Assem. (B.C. & L.W.)
*S-78691	Mixer Coil & Wire Assem. (4-9 MHz)
*S-78693	Mixer Coil & Wire Assem. (11.4-12.2 MHz)
*S-78694	Mixer Coil & Wire Assem. (14.7-15.7 MHz)
*S-78724	R.F. Housing Assembly
*S-78743	Coil Mtg. Bracket & Clip Assembly
*S-79040	Tuner Housing Assembly
*S-79780	Coil Mtg. Bracket Assembly
*S-80653	Bracket & Terminal Strip Assembly
*S-90975	RF Shelf Bracket & Terminal Strip Assem.

*Denotes Parts Not Previously Used.

PART NO.	DESCRIPTION
MODELS ROYAL D7000Y AND ROYAL D7000Y-1 USING CHASSIS 500DMR70	
Z4NL	1-1/2V. Battery (9 Required)
1-19	Telescopic Antenna
11-247	Line Cord (Part of S-90896)
15-108	Socket Shell (Cabinet Back Assem.)
16-4205	Packing Carton
*26-2373	Dial Scale - Compass Circular 3 IN/8 Points (Part of S-91089)
*30-328	Decoration - Trim Strip - Left Side (Part of S-91160)
*30-329	Decoration - Trim Strip - Right Side (Part of S-91160)
*30-330	Decoration - Overlay, Radio - Trans - Oceanic (National Weather Service Band - Zenith Trans - Oceanic)
30-335	Decoration - Lower Cover Plate (Part of S-91089)
36-710	Handle (Portable Radio)
39-75B	Earphone (Part of S-90896)
43-965	Antenna Pivot Housing
43-1040	Battery Container (2 Required)
43-1099	Battery Container
*44-84	Jack (Tuner or Phono) (For 58-214)
46-6251	Sprocket Knob (2 Used on S-78786)
46-6361	Control Knob - Volume - Tone - Manual Gain (3 Required)
46-6828	Control Knob - B.F.O.
46-7382	Tuning Knob
*46-9437	Band Selector Control Knob
49-1143	4" x 6" PM Speaker
54-12	6-32 x 5/16 Hex Nut - Nickel (Part of S-85392)
54-347	6-32 'Keps' Nut (11 Mt. 112-1438, 4 Mt. 112-2066 & 4 Mt. 49-1143)
54-412	Speed Nut (4 Part of S-91160)
54-853	1/4-32 x 3/8 Hex Nut (Used on 44-84)
*54-789	Palnut (5 Mt. S-78792)
54-794	Tinnerman Speed Nut (3 Mt. 57-6658)
54-817	Tinnerman Speed Nut (8 Mt. 192-418)
56-557	Upper Door Pin (2 Required)
56-596	Lower Door Pin
56-605	Lower Door Pin
57-6649	Name Plate (Part of S-85394)
57-6657	Cabinet Top
57-6658	Base Plate, Cabinet
57-6679	Chart Light & Tuning Escutcheon (Part of S-78792)
57-6708	Speaker Escutcheon
857-181	Control Overlay
883-91	Grille Backing Strip
938-16	Grille
57-6801	Name Plate - Trans-Oceanic
57-6971	Battery Panel (Part of S-90896)
57-6994	Cord Retaining Plate (2 Part of S-90896)
57-7330	Chassis Support Plate
57-7769	Selector Knob Background Plate
58-214	Plug - Jack (Used on 44-84)
58-316	A.C. Input Plug (Part of S-85392)
*59-1048	Dial Slide
69-262	8-32 x 1/2 Phillips Rd. Hd. Mach. Screw-Stat. Bronze (3 Used on S-85392)
*73-123	8-32 x 1/4 Allen Hd. Set Screw - Cuppoint (Part of 46-9437)
76-1770	Pivot Shaft (Part of S-78773)
78-1101	Three Contact Battery Socket (Cabinet Back Assem.)
78-1834	Pilot Light Socket & Wire (Part of S-78772)
80-1091	Dial Cord Tension Spring
80-1998	Contact Spring (Part of S-85392)
80-2010	Handle Spring (2 Required)
80-2047	Contact Spring (Part of S-78778)
80-2048	Contact Spring (Part of S-78778 & S-78779) (2 Required)
80-2078	Spring (Part of S-78777)
*80-2159	Spring - Lower Door (Part of S-85389)
80-2165	Lower Door Spring (Part of S-91160)
83-2785	Rubber Strip (Cabinet Back)
83-3024	Rubber Strip (Cabinet Assembly)
*83-4311	Cushioning Material 12 x 12 (Cabinet Assembly)
83-6538	Trim Strip (Used on 57-6658)
83-6543	Time Indicator Strip

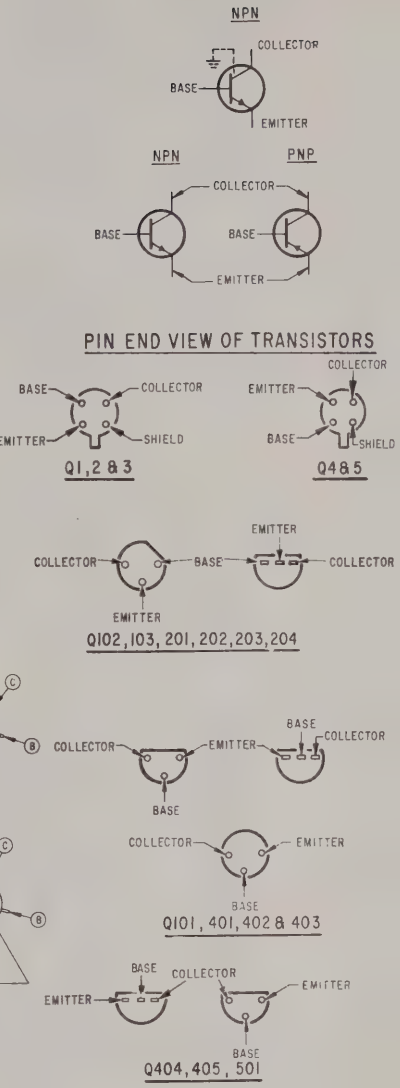
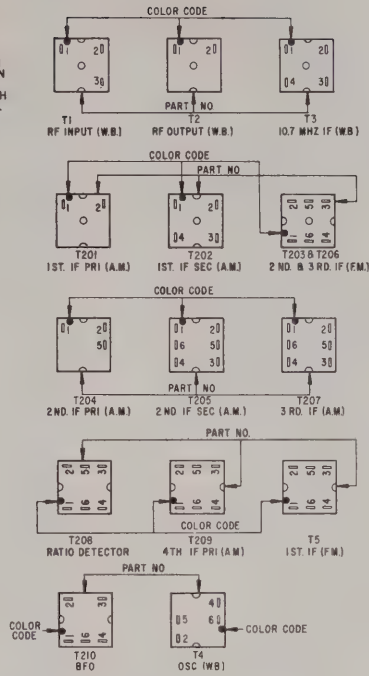
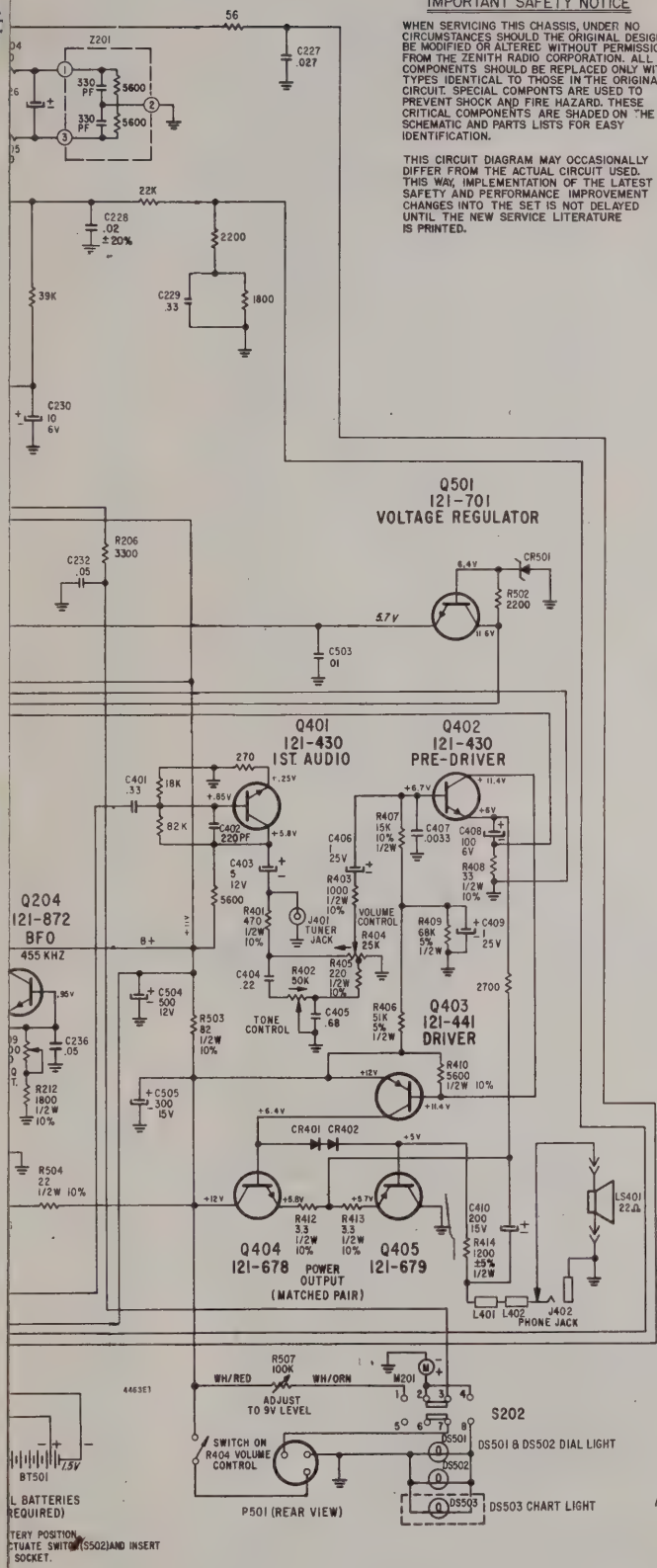
PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
114-571	4-24 x 3/16 Hex Slotted Hd. Self-Tap. Screw-Stat. Bronze (2 Used On S-78718)	*22-5861	Five Section Trimmer Capacitor – B.C. Mixer, L.W. Mixer, B.C. Oscillator, L.W. Oscillator & L.W. Oscillator Padder
114-627	8-18 x 1-1/8 Hex Hd. Self-Tap. Screw – Cadmium Flat Washer Att. (2 Used On S-85229)	*22-6017	Trimmer Capacitor – L.W. Antenna Trimmer (Fixed)
*114-784	8-18 x 0.310 x 0.250 Hex Hd. Slotted Screw – Stat. Bronze	*22-6045	Trimmer Capacitor – B.C. Antenna Trimmer (Fixed)
121-430	Transistor 1st. Audio, Pre-Driver (2 Req.)	22-6335	1800 PF Polystyrene Capacitor – 30V. 5%
121-441	Transistor – Driver	22-6337	3900 PF Polystyrene Capacitor – 30V. 5%
121-692	Transistor – R.F. Oscillator Mixer (3 Req.)	*22-6874	3 Section Variable Capacitor (Antenna, Mixer & Oscillator Tuning)
*121-701	Transistor – Voltage Regulator	22-1170	FM Tuner Cover
*121-872	Transistor – AM Mixer, AM - FM 1st. IF, AM-FM 2nd. IF & AM - FM 3rd. IF (4 Req.)	*52-1486	Coaxial Cable
*122-38	Tuning Meter (R.F. & Battery Checker)	*52-1608	Shielded Cable
126-1554	Heat Sink	*52-1781	Shielded Cable
149-311	Ferrite Sleeve (4 Req.)	*52-2034	Cable, 75 Ohm Coaxial
149-333	Ferrite Sleeve (3 Req.)	54-139	3/8-32 Hex Palnut (Used On 85-1208)
166-105	Bumper (2 Req.)	54-227	4-40 x 1/4 x 3/32 Thk. Hex Nut – N.P. (2 Used On 85-1208)
800-245	Output Trans. Asm. (Consists of 1-21-678 & 1-679)	54-490	Hex Palnut Tension Nut (Used On S-90975)
S-23757	Choke Coil Assem. (2 Req.)	54-633	Retaining Nut (Use Only When 78-165 Is Used) (2 Part Of S-79040)
S-75005	Indicator Lamp Socket & Mtg. STRIP Assem.	*56-493	Guide Pin
S-78651	Control Mtg. Bracket Assem.	*57-6678	Switch Mtg. Plate
*S-78717	Pulley & Bracket Assem.	*57-6867	Trimmer Mtg. Plate
*S-78718	Dial Drum Assem.	61-222	Idler Pulley (2 Part Of S-78724)
*S-78739	Drive Cord, Eyelet & Spring Assem. – Pointer Guide	63-1743	100 Ohm Resistor – 1/2 W. 10% (2 Req.)
*S-78740	Drive Cord & Eyelet Assem. – Dial Drive	63-1772	470 Ohm Resistor – 1/2 W. 20%
*S-78741	Drive Cord & Eyelet Assem. – Dial Drive	63-1775	560 Ohm Resistor – 1/2 W. 10% (2 Req.)
S-85229	Wavemagnet Antenna Assem.	63-1779	680 Ohm Resistor – 1/2 W. 20%
*S-90843	Dial Scale Assem. – Rectangular Scale & Drum (Radio)	63-1788	1200 Ohm Resistor – 1/2 W. 5%
		63-1792	1500 Ohm Resistor – 1/2 W. 10%
		63-1796	1800 Ohm Resistor – 1/2 W. 10%
		63-1797	2000 Ohm Resistor – 1/2 W. + 5% – Insulated
		63-1799	2200 Ohm Resistor – 1/2 W. 10%
		63-1819	6800 Ohm Resistor – 1/2 W. 5%
		63-1830	12K Ohm Resistor – 1/2 W. 5%
		63-1897	470K Ohm Resistor – 1/2 W. 10% (2 Req.)
		63-4101	10 Ohm Resistor – 1/4 W. 10%
		63-4122	33 Ohm Resistor – 1/4 W. 10% (2 Req.)
		*63-4140	82 Ohm Resistor – 1/4 W. 10%
		63-4150	150 Ohm Resistor – 1/4 W. 10%
		63-4157	220 Ohm Resistor – 1/4 W. 10% (2 Req.)
		63-4175	560 Ohm Resistor – 1/4 W. 10%
		63-4185	1000 Ohm Resistor – 1/4 W. 10%
		63-4186	1000 Ohm Resistor – 1/4 W. 20%
		63-4189	1200 Ohm Resistor – 1/4 W. 10% (2 Req.)
		63-4192	1500 Ohm Resistor – 1/4 W. 10% (3 Req.)
		63-4196	1800 Ohm Resistor – 1/4 W. 10%
		63-4199	2200 Ohm Resistor – 1/4 W. 10% (2 Req.)
		63-4220	6800 Ohm Resistor – 1/4 W. 10%
		63-4224	8200 Ohm Resistor – 1/4 W. 10%
		63-4231	12K Ohm Resistor – 1/4 W. 10% (2 Req.)
		73-24	8-32 x 1/4 Slotted Hex Hd. Set Screw – Cuppoint (2 Part Of S-58142)
		76-1474	Driver Shaft (Part Of S-64842)
		78-1675	Transistor Socket (5 Req.)
		78-1842	Transistor Socket (3 Req.)
		79-174-12	No. 18 Sleeving – Yellow – 1-1/2"
		80-209	Drive Cord Tension Spring
		80-1467	Spring
		80-1672	Retaining Spring
		80-1951	Retaining Spring (1 Used On Ea. 94-613) (3 Req.)
		83-2770	7 Lug Terminal Strip (Part Of S-90975)
		83-3218	2 Lug Terminal Strip (Part Of S-79780)
		*83-5668	4 Lug Terminal Strip (Part Of S-90975)
		*83-6983	Antenna Terminal Strip (Part Of S-80653)
		*85-1208	Bandswitch
		86-306	Terminal
		86-441	Insulated Feed-Thru Terminal (3 Req.)
		93-920	.020 x .093 x 7/32 Steel Washer – Cadmium Plate (2 Part Of S-78724)
		93-966	No. 1205 Internal Shakeproof Lockwasher – Cadmium (1 Used On Ea. 54-227) (2 Req.)
		93-1793	Nylon Washer (Used On S-78724)
		94-334	Capacitor Mtg. Bushing (3 Req.)
		94-613	Iron Core Bushing (3 Req.)
		95-2002	1st. I.F. Transformer (Primary) – AM
		95-2003	1st. I.F. Transformer (Secondary) – AM

*Denotes Parts Not Previously Used.

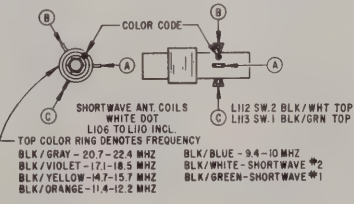
IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.



- NOTES:
- ALL RESISTORS $\pm 5\%$ TOLERANCE, $1/4$ WATT, CARBON UNLESS OTHERWISE SPECIFIED
 - RESISTANCE VALUES IN OHMS, CAPACITANCE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 - ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 - D.C. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL USING A VACUUM TUBE VOLTMETER
 - NUMBERS IN TRIANGLES INDICATE VOLTAGE TEST POINTS. REFER TO NUMBERS IN TRIANGLES ON I23-4464 TRANSISTOR AND TRIMMER LAYOUT
 - NO SIGNAL CURRENT DRAIN IS 25 MA
 - USE ONLY ZENITH NON-INDUCTIVE ELECTROLYTIC CONDENSERS FOR REPLACEMENT. IF ANY OTHER TYPE OF ELECTROLYTIC IS USED, IT WILL BE NECESSARY TO ADD C216 AND C225, SHOWN IN DOTTED LINES DENOTES CHASSIS
 - THE OUTPUT TRANSISTOR MATCHING IDENTIFICATION WILL BE BY COLOR. A MATCHED PAIR MUST CONSIST OF ONE 121-678 AND ONE 121-679 WITH THE SAME (BETA) COLOR CODE.



RA-43

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
CHASSIS 500MDR70			C132	22-5276	125 Pf Ceramic Tubular ± 2% 500 V	R106	63-9921-64	470 ± 5% 1/4 W	L124	S-78089	16M Oscillator Coil (17.2-18.5 MHz)	22-2379	12 PF Disc Capacitor – 500V. (3 Req.)	63-4217	5600 Ohm Resistor – 1/4 W. 10%
C1	22-5432	18 Pf Ceramic Disc ± 5% 500 V	C133	22-6335	1800 Pf Polystyrene Cap. ± 5% 30 V	R107	63-9921-48	100 ± 5% 1/4 W	L125	S-78088	19M Oscillator Coil (14.7-15.7 MHz)	22-2467	47 PF Ceramic Disc Capacitor – 500V. (2 Req.)	63-4227	10K Ohm Resistor – 1/4 W. 10% (4 Req.)
C2	22-2595	60 Pf Ceramic Disc ± 5% 500 V	C134	22-5092	30 Pf Ceramic Disc ± 5% 500 V	R108	63-9921-80	2200 ± 5% 1/4 W	L126	S-78087	25M Oscillator Coil (11.4-12.2 MHz)	22-2594	17 PF Ceramic Disc Capacitor – 500V.	63-4231	12K Ohm Resistor – 1/4 W. 10% (2 Req.)
C3	22-5432	18 Pf Ceramic Disc ± 5% 500 V	C135	22-6337	3900 Pf Polystyrene Cap. ± 5% 30 V	R109	63-9921-76	1500 ± 5% 1/4 W	L127	S-78086	31M Oscillator Coil (9.4-10 MHz)	22-2595	60 PF Disc Capacitor – 500V.	63-4234	15K Ohm Resistor – 1/4 W. 10%
C4	22-4728	1000 PF F.T. 500 V	C136	22-3902	Broadcast Padder	R110	63-9921-68	680 ± 5% 1/4 W	L128	S-78085	S.W. 2 Oscillator Coil	22-2654	50 PF Disc Capacitor – 500V.	63-4238	18K Ohm Resistor – 1/4 W. 10%
C5	22-4728	1000 PF F.T. 500 V	C137	22-5037	.005 Mfd Ceramic Disc 25 V	R111			L129	S-78084	S.W. 1 Oscillator Coil	22-2703	220 PF Disc Capacitor – 500V. (2 Req.)	63-4241	22K Ohm Resistor – 1/4 W. 10%
C6	22-2379	12 Pf Ceramic Disc ± 5% 500 V	C138	22-5318	34 Pf Ceramic Disc ± 5% 500 V	R112	63-9921-48	100 ± 5% 1/4 W	L130A	S-78076	B.C. Oscillator Coil	22-2729	.001 MF Disc Capacitor – 25V.	63-4252	39K Ohm Resistor – 1/4 W. 10% (2 Req.)
C7	22-5092	30 Pf Ceramic Disc ± 5% 500 V	C139	22-5432	18 Pf Ceramic Disc ± 5% 500 V	R113	63-9921-66	560 ± 5% 1/4 W	L130B		L.W. Oscillator Coil	22-2884	5 MF Electrolytic Capacitor – 12V. (2 Req.)	63-4266	82K Ohm Resistor – 1/4 W. 10%
C8	22-5586	43 Pf Ceramic Disc ± 5% 500 V	C140	22-3849	20 Pf Ceramic Disc ± 5% 500 V	R114	63-9921-78	1800 ± 5% 1/4 W	L132		Iron Core Sleeve	22-2898	13 PF Disc Capacitor – 500V.	63-4272	120K Ohm Resistor – 1/4 W. 5%
C9	22-2467	47 PF Ceramic Disc ± 5% 500 V	C141			R115	63-9921-92	6800 ± 5% 1/4 W	L133	149-311	Iron Core Sleeve	22-2985	500 PF Electrolytic Capacitor – 12V.	63-4522	3.3 Ohm Resistor – 1/2 W. 10% (2 Req.)
C10	22-4728	1000 PF F.T. 500 V	C142	22-5128	4 Pf Ceramic Disc ± .25 PF 500 V	R116	63-1788	1200 ± 5% 1/2 W	L201	IN T203 TOP	2nd IF Transformer Pri 10.7 MHz	22-3255	330 PF Disc Capacitor – 500V. (2 Req.)	*63-7125	Meter Adjust Control
C11			C143	22-2379	12 Pf Ceramic Disc ± 5% 500 V	R117	63-9921-66	560 ± 5% 1/4 W	L202	IN T203 BOT	2nd IF Transformer Sec 10.7 MHz	22-3256	10 MF Electrolytic Capacitor – 6V.	*63-7126	Oscillator Bias Control
C12	22-2514	9 Pf Ceramic Disc ± .5 PF 500 V	C144	22-3748	1000 Pf Ceramic Disc ± 10% 1000 V	R118	63-7126	Oscillator Bias Control 10KΩ	L203	S-23757	5.2 UH Choke Coil	22-3393	.01 MF Disc Capacitor – 25V.	63-7135	Volume Control & Switch
C13	22-3919	22 Pf Ceramic Disc ± 5% 500 V	C145	22-3689	.05 Mfd Ceramic Disc 25 V	R201	63-9921-66	560 ± 5% 1/4 W	L204	IN T206 TOP	3rd IF Transformer Pri 10.7 MHz	22-3615	1 MF Electrolytic Capacitor – 25V. (2 Req.)	*63-7528	B.F.O. Control & Switch
C14	22-3939	26 Pf Ceramic Disc ± 5% 500 V	C146	22-18	.0022 Ceramic Disc ± 10% 500 V	R202	63-9921-72	1000 ± 5% 1/4 W	L205	IN T206 BOT	3rd IF Transformer Sec 10.7 MHz	22-3689	.05 MF Disc Capacitor – 25V. (12 Req.)	*63-7529	Tone Control
C15	22-3751	20 Pf Ceramic Disc ± 5% 500 V	C147	22-3689	.05 Mfd Ceramic Disc 25 V	R203	63-9921-72	1000 ± 5% 1/4 W	L206	IN T207 TOP	3rd IF Transformer Pri 455 KHz	22-3748	.001 Disc Capacitor – 1000V. (2 Req.)	*63-7530	Manual Gain Control & Switch – 5K Ohm
C16	22-4728	1000 PF F.T. 500 V	C148	22-3689	.05 Mfd Ceramic Disc 25 V	R204	63-9921-68	680 ± 5% 1/4 W	L207	IN T207 BOT	3rd IF Transformer Sec 455 KHz	22-3753	20 MF Electrolytic Capacitor – 3V.	64-6	1/8" Dia. x 3/16" Lg. Tubular Rivet (2 Req.)
C17	22-3748	.001 Mfd Ceramic Disc ± 10% 1000 V	C201	22-2594	17 Pf Ceramic Disc ± 5% 500 V	R205	63-9921-68	680 ± 5% 1/4 W	L208	20-1256	10.7 MHz Trap Coil	22-3939	26 PF Disc Capacitor – 500V.	64-7	1/8" Dia. x 5/32" Lg. Tubular Rivet (2 Req.)
C18	22-5319	38 Pf Ceramic Disc ± 5% 500 V	C202	22-3538	125 Pf Mica ± 5% 100 V	R206	63-9921-84	3300 ± 5% 1/4 W	L209	IN T208 BOT	Ratio Detector Transformer Pri 10.7 MHz	22-4571	200 MF Electrolytic Capacitor – 15V.	64-88	.088 Dia. x 1/8" Lg. Tubular Rivet (7 Req.)
C19	22-2731	10 Pf Ceramic Disc ± .5 PF 500 V	C203	22-3689	.05 Mfd Ceramic Disc 25 V	R207	63-9922-22	120K ± 5% 1/4 W	L210	IN T208 TOP	Ratio Detector Transformer Sec 10.7 MHz	22-4573	1000 MF Electrolytic Capacitor – 15V.	64-151	.088 Dia. x 3/32" Lg. Tubular Rivet (2 Pt. Of S-78651)
C20	22-2729	.001 Mfd Ceramic Disc 25 V	C204	22-3689	.05 Mfd Ceramic Disc 25 V	R208	63-9921-68	680 ± 5% 1/4 W	L211			22-4728	1000 PF Feed-Thru Capacitor – 500V. (4 Req.)	64-288	Shoulder Rivet (Pt. Of S-78717)
C21			C205	22-5586	43 Pf Ceramic Disc ± 5% 500 V	R209	63-7528	B.F.O. Control and Switch 2500Ω	L212	149-333	Iron Core Sleeve	22-5092	30 PF Capacitor – 500V.	73-88	4-40 x 1/8 Allen Hd. Set Screw – Couppoint (Used On 34-662)
C22	22-5320	42 Pf Ceramic Disc ± 5% 500 V	C206	22-2898	13 Pf Ceramic Disc ± 5% 500 V	R210	63-9921-62	390 ± 5% 1/4 W	L401	149-333	Iron Core Sleeve	22-5192	300 MF Electrolytic Capacitor – 15V.	78-644	Connector Socket, Single Contact (Tuner Output Jack)
C23	22-3066	10 Pf Tubular Gimmick 500 V	C207	22-3689	.05 Mfd Ceramic Disc 25V	R211			L402	149-333	Iron Core Sleeve	22-5413	100 MF Electrolytic Capacitor – 6V.	78-1675	Transistor Socket (3 Req.)
C24	22-3393	.01 Mfd Ceramic Disc 25 V	C208	22-3689	.05 Mfd Ceramic Disc 25 V	R212	63-1796	1800 ± 10% 1/2 W	T1	95-2985	RF Input Transformer (W.B.)	22-5432	18 PF Disc Capacitor – 500V. (3 Req.)	OR	
C25	22-4613	1000 PF F.T. 500 V	C209	22-5761	470 Pf Ceramic Disc ± 10% 1000 V	R401	63-1771	470 ± 10% 1/2 W	T2	95-2613	RF Output Transformer (W.B.)	22-5583	22 MF Capacitor – 50V.	78-1844	Transistor Socket (3 Req.)
C26	22-3393	.01 Mfd Ceramic Disc 25 V	C210	22-3689	.05 Mfd Ceramic Disc 25 V	R402	63-7529	50K Tone Control	T3	95-2611	10.7 MHz I.F. Transformer (W.B.)	22-5596	43 PF Disc Capacitor – 500V. (2 Req.)	78-1838	Transistor Socket (6 Req.)
C27	22-4613	1000 PF F.T. 500 V	C211			R403	63-1785	1000 ± 10% 1/2 W	T4	95-2986	Oscillator Transformer (W.B.)	22-5652	.33 MF Capacitor – 50V. (2 Req.)	79-174-12	No. 18 Sleeve – Yellow – 1-1/2"
C28	22-3309	1.8 Pf Tubular Gimmick 500 V	C212	22-3689	.05 Mfd Ceramic Disc 25 V	R404	63-7135	25K Volume Control & Switch	T5	95-2609	1st IF Transformer (FM)	22-5658	.027 MF Tubular Capacitor – 50V.	80-1140	Drive Tension Spring (2 Req.)
C29	22-4613	1000 PF F.T. 500 V	C213	22-5819	6 Pf Ceramic Disc ± 5% 500 V	R405	63-1757	220 ± 10% 1/2 W	T201	95-2002	1st IF Primary Transformer (AM)	22-5658	150 PF Disc Capacitor 10% – 1000V.	*80-2125	Pointer Spring (Pt. Of S-78739)
C30	22-2379	12 Pf Ceramic Disc ± 5% 500 V	C214	22-2703	220 Pf Ceramic Disc ± 10% 1000 V	R406	63-1857	51K ± 5% 1/2 W	T202	95-2003	1st IF Secondary Transformer (AM)	22-5709	.68 MF Disc Capacitor – 3V.	83-3586	12 Lug Terminal Strip (2 Req.)
C31			C215	22-3753	20 Mfd Electrolytic 3 V	R407	63-1834	15K ± 10% 1/2W	T203	95-2610	2nd IF Transformer (FM)	22-5761	470 PF Disc Capacitor – 1KV.	83-3588	7 Lug Terminal Strip (2 Req.)
C32	22-3849	20 Pf Ceramic Disc ± 5% 500 V	C216	22-3955	.1 Mfd Mylar Tubular ± 10% 50 V	R408	63-1722	33 ± 10% 1/2 W	T204	95-2604	2nd IF Primary Transformer (AM)	22-5819	6 PF Ceramic Disc Capacitor – 500V. (2 Req.)	83-3641	5 Lug Terminal Strip
C33	22-3393	.01 Mfd Ceramic Disc 25 V	C217	22-2729	.001 Mfd Ceramic Disc 25 V	R409	63-1861	68K ± 5% 1/2 W	T205	95-2605	2nd IF Secondary Transformer (AM)	22-5989	.02 MF Disc Capacitor – 16V.	83-4997	4 Lug Terminal Strip (Pt. Of S-78651)
C34	22-3393	.01 Mfd Ceramic Disc 25 V	C218	22-3689	.05 Mfd Ceramic Disc 25 V	R410	63-1817	5600 ± 10% 1/2 W	T206	95-2610	3rd IF Transformer (FM)	*34-552	Drive Gear	83-5187	11 Lug Terminal Strip
C35	22-4613	1000 PF F.T. 500 V	C219	22-3689	.05 Mfd Ceramic Disc 25 V	R411			T207	95-2606	3rd IF Transformer (AM)	*34-662	Gear	83-5268	8 Lug Terminal Strip
C36	22-4613	1000 PF F.T. 500 V	C220	22-3689	.05 Mfd Ceramic Disc 25 V	R412	63-4522	3.3 ± 10% 1/2 W	T208	95-2608	Ratio Detector Transformer (FM)	*52-1458	Headphone Jack	83-5410	3 Lug Terminal Strip
C37	22-2729	.001 Mfd Ceramic Disc 25 V	C221			R413	63-4522	3.3 ± 10% 1/2 W	T209	95-2607	4th IF Primary Transformer (AM)	54-139	Shielded Lead	*83-7596	Antenna Mtg. Strip (Pt. Of S-85229)
C101	22-2898	13 Pf Ceramic Disc ± 5% 500 V	C222	22-2379	12 Pf Ceramic Disc ± 5% 500 V	R501	63-9921-32	22 ± 5% 1/4 W	T210	95-2634	B.F.O. Transformer	54-563	3/8-32 x 9/16 Hex Nut – Cadmium (1 Used On Ea. 63-7135, 63-7528, 63-7529, 63-7530)	85-1013	Slide Switch – AFC (White) S.P.D.T.
C102	22-3689	.05 Mfd Ceramic Disc 25 V	C223	22-2654	50 Pf Ceramic Disc ± 5% 500 V	R502	63-9921-80	2200 ± 5% 1/4 W	TS01	95-2671	Power Transformer	54-633	1/4-32 x 3/8 Palnut (Mts. 44-34)	85-1014	Slide Switch – Bandwidth (Blue) S.P.D.T.
C103	22-3689	.05 Mfd Ceramic Disc 25 V	C224	22-3255	330 Pf Ceramic Disc ±10% 500 V	R503	63-1740	82 ± 10% 1/2 W	CR1	103-39	AFC Diode		Socket Retaining Nut (Used On 78-1685 Or 78-1844)	85-1015	Slide Switch – Tuning Meter & Dial Light (Black)
C104	22-2467	47 Pf Ceramic Disc ± 5% 500 V	C225	22-3955	.1 Mfd Mylar Tubular ± 10% 50 V	R504	63-1715	22 ± 10% 1/2 W	CR201	103-44	Crystal Diode			86-329	Connector Terminal (1 Used on Ea. White & Black Wire)
C105	22-3689	.05 Mfd Ceramic Disc 25 V	C226	22-2884	5 Mfd Electrolytic 12 V	R505	63-1932	3.3 Meg ± 10% 1/2 W	CR202	103-31	Crystal Diode			86-441	Insulated Feed-Thru Terminal (3 Req.)
C106	22-5585	750 Pf Ceramic Disc ± 10% 500 V	C227	22-5652	.027 Mfd Mylar Tubular ± 10% 50 V	R506	63-1708	15 ± 10% 1/2 W	CR401	103-141	Audio Diode			93-1043	Spring Washer
C107	22-3955	.1 Mfd Mylar Tubular ± 20% 50 V	C228	22-5989	.02 Mfd Ceramic Disc ± 20% 25 V	R507	63-7125	Meter Adjustment Control 100K Ohm	CR402	103-141	Audio Diode			*93-1825	3.8 O.D. x .257 I.D. x .031 Thk. Washer
C108	22-3749	1000 PF Mica ± 100 V	C229	22-5596	.33 Mfd Mylar Tubular ± 20% 50 V	L1	149-311	Iron Core Sleeve	CR501	103-140	Zener			*94-1487	Spacer (1 Used On Ea. 114-627) (2 Req.)
C109	22-3689	.05 Mfd Ceramic Disc 25 V	C230	22-3256	10 Mfd Electrolytic 6 V	L2	S-23757	5.2 UH Choke Coil	CR502	212-76	Silicon Rectifier			95-2604	2nd I.F. Primary Transformer (AM)
C110	22-3689	.05 Mfd Ceramic Disc 25 V	C231			L3	S-23757	Antenna Coil Assembly	CR503	212-76	Silicon Rectifier			95-2605	2nd I.F. Secondary Transformer (AM)
C111	22-5459	1500 Pf Ceramic Disc ± 10% 500 V	C232	22-3689	.05 Mfd Ceramic Disc 25 V	L4	149-311	Iron Core Sleeve	S1	85-1208	Bandswitch			95-2606	3rd. I.F. Transformer (AM)
C112	22-6045	B.C. Antenna Trimmer (Fixed)	C233	22-3255	330 Pf Ceramic Disc ± 10% 500 V	L5	S-58095	Det. Coil Assembly	S2	85-1013	Sideswitch S.P.D.T. A.F.C. (White)			95-2607	4th I.F. Transformer (AM)
C113	22-6017	L.W. Antenna Trimmer (Fixed)	C234	22-3689	.05 Mfd Ceramic Disc 25 V	L6	20-1256	10.7 MHz Trap Coil	S201	85-1014	Sideswitch S.P.D.T. Bandwidth (Blue)			95-2608	Ratio Detector Transformer (FM)
C114A	22-5705	S.W. 2 Antenna Trimmer	C235	22-3748	.001 Mfd Ceramic Disc ± 10% 1000 V	L7	20-1256	10.7 MHz Trap Coil	S202	85-1015	Sideswitch (Momentary Contact) (Black)			95-2610	2nd. & 3rd. I.F. Transformer – FM (2 Req.)
C114B		S.W. 1 Antenna Trimmer	C236	22-3689	.05 Mfd Ceramic Disc 25 V	L8	S-58095	Osc. Coil Assembly	S203	85-1018	Sideswitch (Momentary Contact) (Black)			95-2611	8200 Ohm Resistor – 1/2 W. 10%
C114C		S.W. 2 Mixer Trimmer	C401	22-5596	.33 Mfd Mylar Tubular ± 20% 50 V	L9	IN T5	1st IF Transformer Pri. F.M.	P401	58-214	Tuner Plug (On Cabinet Back)			95-2613	15K Ohm Resistor – 1/2 W. 10%
C114D		S.W. 1 Mixer Trimmer	C402	22-2703	220 Pf Ceramic Disc ± 10% 500 V	IN T5	1st IF Transformer Sec. F.M.		P501	58-235	Three Pin Power Supply Connector			95-2613	RF Output Transformer 9WB)
C114E	22-5705	S.W. 1 Oscillator Trimmer	C403	22-2884	5 Mfd Electrolytic 12 V	L10	149-311	Iron Core Sleeve	P502	58-316	AC-Input Plug			95-2634	B.F.O. Transformer
C114F		S.W. 1 Oscillator Trimmer	C404	22-5583	.22 Mfd Mylar Tubular ± 20% 50 V	L101	149-311	Iron Core Sleeve	J401	78-644	Tuner Output Jack			95-2985	RF Input Transformer (W.B.)
C115	22-3689	.05 Mfd Ceramic Disc 25 V	C405	22-5709	.68 Mfd Ceramic Disc ± 30% 3 V	L102	S-85229	Wavemagnet Winding Assembly (Fixed)	J402	44-34	Headphone Jack			95-2986	Oscillator Transformer (W.B.)
C116	22-5588	60 Pf Ceramic Disc ± 10% 500 V	C406	22-3615	1 Mfd Electrolytic 25 V	L103	149-311	Iron Core Sleeve	J403	44-84	Tuner Jack			100-218	Dial Light – GE No. 123 (2 Req.)
C117	22-5589	85 PF Ceramic Disc ± 10% 500 V	C407	22-13	.0033 Mfd Ceramic Disc 500 V	L104	S-45000	Series Antenna Coupling Coil Assembly	J501	78-1101	Battery Socket			103-31	Diode
C118A	22-6874	Antenna Tuning	C408	22-5413	100 Mfd Electrolytic 6 V	L105	S-45000	Series Antenna Coupling Coil Assembly	DS501	100-218	Dial Light Lamp			103-44	Diode
C118B		Mixer Tuning	C409	22-3615	1 Mfd Electrolytic 25 V	L106	S-78083	13M Antenna Coil (20.7-22.4 MHz)	DS502	100-218	Dial Light Lamp			103-141	Diode (Zener)
C118C		Oscillator Tuning	C410	22-4571	200 Mfd Electrolytic 15 V	L107	S-78082	16M Antenna Coil (17.1-18.5 MHz)	DS503	100-218	Chart Lamp			105-96	Integnet
C119A		B.C. Mixer Trimmer	C501	22-3689	.05 Mfd Ceramic Disc 25 V</										

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
22-2379	12 PF Disc Capacitor – 500V. (3 Req.)	63-4217	5600 Ohm Resistor – 1/4 W. 10%
22-2467	47 PF Ceramic Disc Capacitor – 500V. (2 Req.)	63-4227	10K Ohm Resistor – 1/4 W. 10% (4 Req.)
22-2594	17 PF Ceramic Disc Capacitor – 500V.	63-4231	12K Ohm Resistor – 1/4 W. 10% (2 Req.)
22-2595	60 PF Disc Capacitor – 500V.	63-4234	15K Ohm Resistor – 1/4 W. 10%
22-2654	50 PF Disc Capacitor – 500V.	63-4238	18K Ohm Resistor – 1/4 W. 10%
22-2703	220 PF Disc Capacitor – 500V. (2 Req.)	63-4241	22K Ohm Resistor – 1/4 W. 10%
22-2729	.001 MF Disc Capacitor – 25V.	63-4252	39K Ohm Resistor – 1/4 W. 10% (2 Req.)
22-2884	5 MF Electrolytic Capacitor – 12V. (2 Req.)	63-4266	82K Ohm Resistor – 1/4 W. 10%
22-2898	13 PF Disc Capacitor – 500V.	63-4272	120K Ohm Resistor – 1/4 W. 5%
22-2985	500 PF Electrolytic Capacitor – 12V.	63-4522	3.3 Ohm Resistor – 1/2 W. 10% (2 Req.)
22-3255	330 PF Disc Capacitor – 500V. (2 Req.)	*63-7125	Meter Adjust Control
22-3256	10 MF Electrolytic Capacitor – 6V.	*63-7126	Oscillator Bias Control
22-3393	.01 MF Disc Capacitor – 25V.	63-7135	Volume Control & Switch
22-3615	1 MF Electrolytic Capacitor – 25V. (2 Req.)	*63-7528	B.F.O. Control & Switch
22-3689	.05 MF Disc Capacitor – 25V. (12 Req.)	*63-7529	Tone Control
22-3748	.001 Disc Capacitor – 1000V. (2 Req.)	*63-7530	Manual Gain Control & Switch – 5K Ohm
22-3753	20 MF Electrolytic Capacitor – 3V.	64-6	1/8" Dia. x 3/16" Lg. Tubular Rivet (2 Req.)
22-3939	26 PF Disc Capacitor – 500V.	64-7	1/8" Dia. x 5/32" Lg. Tubular Rivet (2 Req.)
22-4571	200 MF Electrolytic Capacitor – 15V.	64-88	.088 Dia. x 1/8" Lg. Tubular Rivet (7 Req.)
22-4573	1000 MF Electrolytic Capacitor – 15V.	64-151	.088 Dia. x 3/32" Lg. Tubular Rivet (2 Pt. Of S-78651)
22-4728	1000 PF Feed-Thru Capacitor – 500V. (4 Req.)	64-288	Shoulder River (Pt. Of S-78717)
22-5092	30 PF Capacitor – 500V.	73-88	4-40 x 1/8 Allen Hd. Set Screw – Couppoint (Used On 34-662)
22-5192	300 MF Electrolytic Capacitor – 15V.	78-644	Connector Socket, Single Contact (Tuner Output Jack)
22-5413	100 MF Electrolytic Capacitor – 6V.	78-1675	Transistor Socket (3 Req.)
22-5432	18 PF Disc Capacitor – 500V. (3 Req.)	OR	
22-5583	.22 MF Capacitor – 50V.	78-1844	Transistor Socket (3 Req.)
*22-5586	43 PF Disc Capacitor – 500V. (2 Req.)	78-1838	Transistor Socket (4 Req.)
22-5596	.33 MF Capacitor – 50V. (2 Req.)	78-1842	Transistor Socket (6 Req.)
22-5652	.027 MF Tubular Capacitor – 50V.	79-174-12	No. 18 Sleeving – Yellow – 1-1/2"
22-5658	150 PF Disc Capacitor 10% – 1000V.	80-1140	Drive Tension Spring (2 Req.)
*22-5709	.68 MF Disc Capacitor – 3V.	*80-2125	Pointer Spring (Pt. Of S-78739)
22-5761	470 PF Disc Capacitor – 1KV.	83-3586	12 Lug Terminal Strip (2 Req.)
22-5819	6 PF Ceramic Disc Capacitor – 500V. (2 Req.)	83-3588	7 Lug Terminal Strip (2 Req.)
22-5989	.02 MF Disc Capacitor – 16V.	83-3641	5 Lug Terminal Strip
*34-552	Drive Gear	83-4997	4 Lug Terminal Strip (Pt. OF S-78651)
*34-662	Gear	83-5187	11 Lug Terminal Strip
44-34	Headphone Jack	83-5268	8 Lug Terminal Strip
*52-1458	Shielded Lead	83-5410	3 Lug Terminal Strip
54-139	3/8-32 x 9/16 Hex Palnut – Cadmium (1 Used On Ea. 63-7135, 63-7528, 63-7529, 63-7530)	*83-7596	Antenna Mtg. Strip (Pt. OF S-85229)
54-560	1/4-32 x 3/8 Palnut (Mts. 44-34)	*85-1013	Slide Switch – AFC (White) S.P.D.T.
54-633	Socket Retaining Nut (3 Used On 78-1685 Or 78-1844)	*85-1014	Slide Switch – Bandwidth (Blue) S.P.D.T.
58-235	3 Prong Plug (Power Supply Connector)	85-1015	Slide Switch – Tuning Meter & Dial Light (Black)
*59-904	Dial Pointer	86-329	Connector Terminal (1 Used on Ea. White & Black Wire)
61-222	Idler Pulley (Pt. Of S-78717)	86-441	Insulated Feed-Thru Terminal (3 Req.)
63-1715	22 Ohm Resistor – 1/2 W. 10% (2 Req.)	93-1043	Spring Washer
63-1722	33 Ohm Resistor – 1/2 W. 10%	*93-1792	.062 Thk. x .257 x 3/8 Wahser (Used On 34-552)
63-1740	82 Ohm Resistor – 1/2 W. 10%	*93-1825	3.8 O.D. x .257 I.D. x .031 Thk. Washer
63-1757	220 Ohm Resistor – 1/2 W. 10%	*94-1487	Spacer (1 Used On Ea. 114-627) (2 Req.)
63-1768	390 Ohm Resistor – 1/2 W. 10%	*95-2604	2nd I.F. Primary Transformer (AM)
63-1771	470 Ohm Resistor – 1/2 W. 10%	*95-2605	2nd. I.F. Secondary Transformer (AM)
63-1778	680 Ohm Resistor – 1/2 W. 10% (3 Req.)	95-2606	3rd. I.F. Transformer (AM)
63-1785	1000 Ohm Resistor – 1/2 W. 10% (2 Req.)	*95-2607	4th I.F. Transformer (AM)
63-1788	1200 Ohm Resistor – 1/2 W. 5%	*95-2608	Ratio Detector Transformer (FM)
63-1796	1800 Ohm Resistor – 1/2 W. 10%	95-2610	2nd. & 3rd. I.F. Transformer – FM (2 Req.)
63-1806	3300 Ohm Resistor – 1/2 W. 10% (2 Req.)	*95-2611	10.7 MHz I.F. Transformer (WB)
63-1817	5600 Ohm Resistor – 1/2 W. 10%	95-2613	RF Output Transformer 9WB)
63-1824	8200 Ohm Resistor – 1/2 W. 10%	*95-2634	B.F.O. Transformer
63-1834	15K Ohm Resistor – 1/2 W. 10%	*95-2985	RF Input Transformer (W.B.)
63-1857	51K Ohm Resistor – 1/2 W. 5%	*95-2986	Oscillator Transformer (W.B.)
63-1861	68000 Ohm Resistor – 1/2 W. 5%	100-218	Dial Light – GE No. 123 (2 Req.)
63-1897	470K Ohm Resistor – 1/2 W. 10%	103-31	Diode
63-4122	33 Ohm Resistor – 1/4 W. 10%	103-44	Diode
63-4133	56 Ohm Resistor – 1/4 W. 10%	103-140	Diode (Zener)
63-4143	100 Ohm Resistor – 1/4 W. 10%	*103-141	Diode – Audio (2 Req.)
63-4147	120 Ohm Resistor – 1/4 W. 10%	105-96	Integnet
63-4157	220 Ohm Resistor – 1/4 W. 10% (3 Req.)	*112-2099	6-20 x 1/4 Special Phillips Pan Hd. Self-Tap. Screw – Cadmium (2 Used On S-78651)
63-4161	270 Ohm Resistor – 1/4 W. 10%	113-40	6-32 x 1/4 Phillips Rd. Hd. Mach. Screw – Cadmium - Internal Shadeproof Lockwasher (2 Used On S-78717)
63-4171	470 Ohm Resistor – 1/4 W. 10% (5 Req.)	113-182	8-32 x 1/4 Lg. Phillips Rd. Hd. Mach. Screw – Cadmium – Ext. Shakeproof Lockwasher (2 Mt. S-78651 & 1 Mts. S-78717) (3 Req.)
63-4175	560 Ohm Resistor – 1/4 W. 10%	*113-210	8-32 x 0.875 CD 0.312 Hex Hd. Slotted Mach. Screw W/Washer (Mts. S-78651)
63-4178	680 Ohm Resistor – 1/4 W. 10% (2 Req.)	114-39	8-32 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw – Cadmium (3 Mt. RF. Tuner)
63-4182	820 Ohm Resistor – 1/4 W. 10%		
63-4185	1000 Ohm Resistor – 1/4 W. 10% (3 Req.)		
63-4192	1500 Ohm Resistor – 1/4 W. 10%		
63-4196	1800 Ohm Resistor – 1/4 W. 10%		
63-4198	2200 Ohm Resistor – 1/4 W. 5%		
63-4199	2200 Ohm Resistor – 1/4 W. 10%		
63-4203	2700 Ohm Resistor – 1/4 W. 10% (3 Req.)		
63-4206	3300 Ohm Resistor – 1/4 W. 10% (3 Req.)		

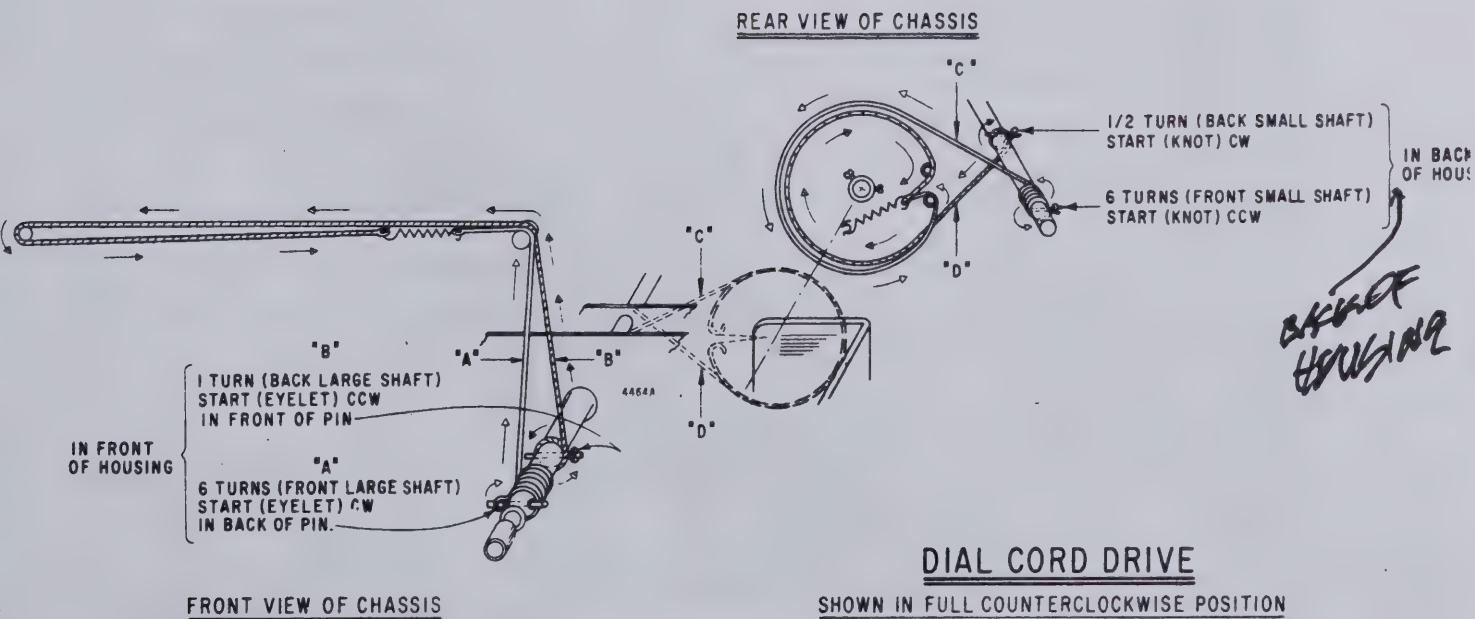
*Denotes Parts Not Previously Used.

NO.	TRANSISTOR CHART
Q1	121-692 WB RF
Q2	121-692 WB MIXER
Q3	121-692 WB OSCILLATOR
Q4	121-687 RF TRANSISTOR (FM)
Q5	121-687 OSCILLATOR MIXER (FM)
Q101	121-871 RF (AM)
Q102	121-872 MIXER (AM)
Q103	121-872 OSCILLATOR (AM)
Q201	121-872 1st. IF TRANSISTOR (AM-FM)
Q202	121-872 2nd IF TRANSISTOR (AM-FM)
Q203	121-872 3rd IF TRANSISTOR (AM-FM)
Q204	121-872 BFO
Q401	121-430 1st. AUDIO
Q402	121-430 PRE-DRIVER
Q403	121-441 DRIVER
Q404	121-678 OUTPUT (NPN) } MATCHED PAIR
Q405	121-679 OUTPUT (PNP) }
Q501	121-701 VOLTAGE REGULATOR

NO.	TRIMMER CHART
C112	BROADCAST ANTENNA TRIMMER
C113	LONG WAVE ANTENNA TRIMMER
C114 (A)	SW2 ANTENNA TRIMMER
C114 (B)	SW1 ANTENNA TRIMMER
C114 (C)	SW2 MIXER TRIMMER
C114 (D)	SW1 MIXER TRIMMER
C114 (E)	SW2 OSCILLATOR TRIMMER
C114 (F)	SW1 OSCILLATOR TRIMMER
C119 (A)	BROADCAST MIXER TRIMMER
C119 (B)	LONG WAVE MIXER TRIMMER
C119 (C)	BROADCAST OSCILLATOR TRIMMER
C119 (D)	LONG WAVE OSCILLATOR TRIMMER
C119 (E)	LONG WAVE OSCILLATOR PADDER
C130	VHF OSCILLATOR TRIMMER
C136	BROADCAST OSCILLATOR PADDER

NO.	COIL CHART
L102	ANTENNA (LW AND BC)
L106	13M ANTENNA COIL (TOP)
L107	16M ANTENNA COIL (BOTTOM)
L108	19M ANTENNA COIL (TOP)
L109	25M ANTENNA COIL (BOTTOM)
L110	31M ANTENNA COIL (TOP)
L112	SW2 ANTENNA COIL (BOTTOM)
L113	SW1 ANTENNA COIL (TOP)
L114	13M MIXER COIL (TOP)
L115	16M MIXER COIL (TOP)
L116	19M MIXER COIL (TOP)
L117	25M MIXER COIL (TOP)
L118	31M MIXER COIL (TOP)
L119	SW2 MIXER COIL (TOP)
L120	SW1 MIXER COIL (TOP)
L122A	BC MIXER COIL (TOP)
L122B	LW MIXER COIL (BOTTOM)
L123	13M OSCILLATOR COIL (BOTTOM)
L124	16M OSCILLATOR COIL (BOTTOM)
L125	19M OSCILLATOR COIL (BOTTOM)
L126	25M OSCILLATOR COIL (BOTTOM)
L127	31M OSCILLATOR COIL (BOTTOM)
L128	SW2 OSCILLATOR COIL (BOTTOM)
L129	SW1 OSCILLATOR COIL (BOTTOM)
L130A	BC OSCILLATOR COIL (BOTTOM)
L130B	LW OSCILLATOR COIL (TOP)
L201	2nd IF TRANSFORMER PRIMARY (TOP)
L202	2nd IF TRANSFORMER SECONDARY (BOTTOM) } T203
L204	3rd IF TRANSFORMER PRIMARY (TOP)
L205	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T206
L206	3rd IF TRANSFORMER PRIMARY (TOP)
L207	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T207
L209	RATIO DETECTOR TRANSFORMER PRI (BOTTOM) } T208
L210	RATIO DETECTOR TRANSFORMER (TOP) }

NO.	TRANSFORMER CHART
T1	RF INPUT TRANSFORMER (WB)
T2	RF OUTPUT TRANSFORMER (WB)
T3	10.7 MHZ IF TRANSFORMER (WB)
T4	OSCILLATOR TRANSFORMER (WB)
T5	1st IF TRANSFORMER (FM)
T201	1st IF PRIMARY (AM)
T202	1st IF SECONDARY (AM)
T203	2nd IF TRANSFORMER (FM)
T204	2nd IF TRANSFORMER PRIMARY (AM)
T205	2nd IF TRANSFORMER SECONDARY (AM)
T206	3rd IF TRANSFORMER (FM)
T207	3rd IF TRANSFORMER (AM)
T208	RATIO DETECTOR TRANSFORMER (FM)
T209	4th IF TRANSFORMER PRIMARY (AM)
T201	BFO TRANSFORMER

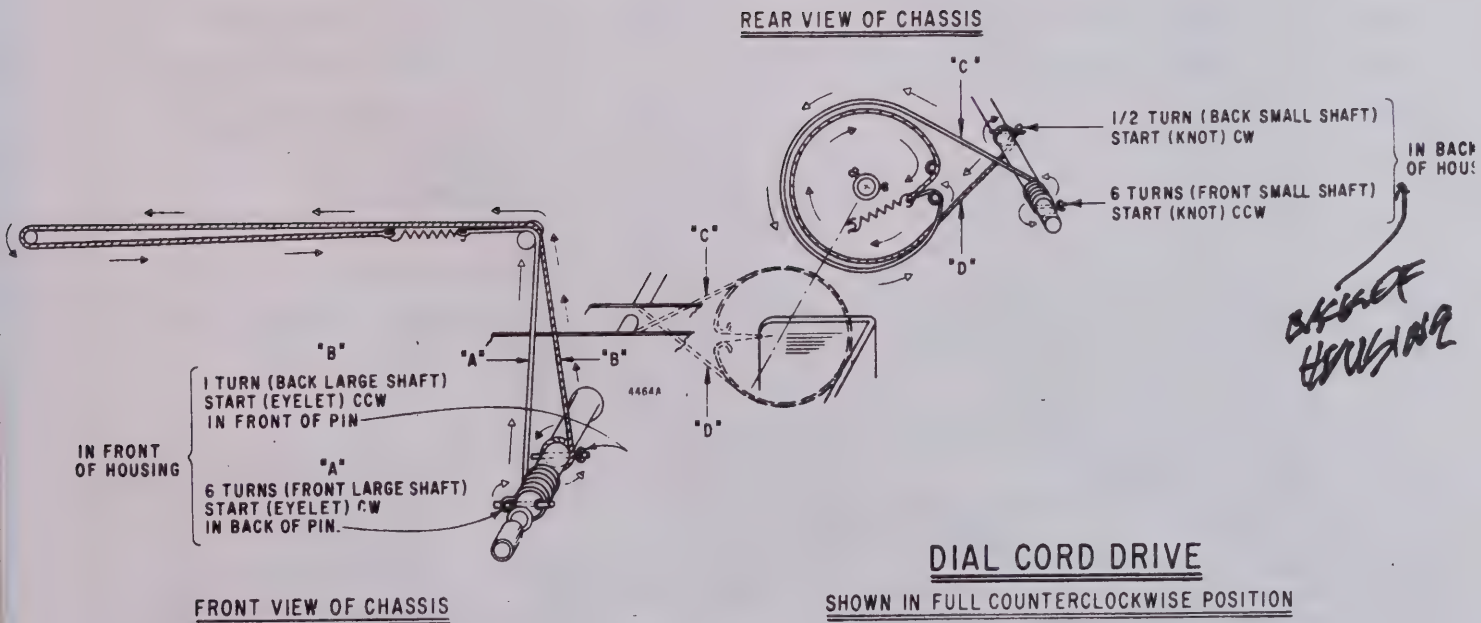


NO.	TRANSISTOR CHART
Q1	121-692 WB RF
Q2	121-692 WB MIXER
Q3	121-692 WB OSCILLATOR
Q4	121-687 RF TRANSISTOR (FM)
Q5	121-687 OSCILLATOR MIXER (FM)
Q101	121-871 RF (AM)
Q102	121-872 MIXER (AM)
Q103	121-872 OSCILLATOR (AM)
Q201	121-872 1st. IF TRANSISTOR (AM-FM)
Q202	121-872 2nd IF TRANSISTOR (AM-FM)
Q203	121-872 3rd IF TRANSISTOR (AM-FM)
Q204	121-872 BFO
Q401	121-430 1st. AUDIO
Q402	121-430 PRE-DRIVER
Q403	121-441 DRIVER
Q404	121-678 OUTPUT (NPN) } MATCHED PAIR
Q405	121-679 OUTPUT (PNP) }
Q501	121-701 VOLTAGE REGULATOR

NO.	TRIMMER CHART
C112	BROADCAST ANTENNA TRIMMER
C113	LONG WAVE ANTENNA TRIMMER
C114 (A)	SW2 ANTENNA TRIMMER
C114 (B)	SW1 ANTENNA TRIMMER
C114 (C)	SW2 MIXER TRIMMER
C114 (D)	SW1 MIXER TRIMMER
C114 (E)	SW2 OSCILLATOR TRIMMER
C114 (F)	SW1 OSCILLATOR TRIMMER
C119 (A)	BROADCAST MIXER TRIMMER
C119 (B)	LONG WAVE MIXER TRIMMER
C119 (C)	BROADCAST OSCILLATOR TRIMMER
C119 (D)	LONG WAVE OSCILLATOR TRIMMER
C119 (E)	LONG WAVE OSCILLATOR PADDER
C130	VHF OSCILLATOR TRIMMER
C136	BROADCAST OSCILLATOR PADDER

NO.	COIL CHART
L102	ANTENNA (LW AND BC)
L106	13M ANTENNA COIL (TOP)
L107	16M ANTENNA COIL (BOTTOM)
L108	19M ANTENNA COIL (TOP)
L109	25M ANTENNA COIL (BOTTOM)
L110	31M ANTENNA COIL (TOP)
L112	SW2 ANTENNA COIL (BOTTOM)
L113	SW1 ANTENNA COIL (TOP)
L114	13M MIXER COIL (TOP)
L115	16M MIXER COIL (TOP)
L116	19M MIXER COIL (TOP)
L117	25M MIXER COIL (TOP)
L118	31M MIXER COIL (TOP)
L119	SW2 MIXER COIL (TOP)
L120	SW1 MIXER COIL (TOP)
L122A	BC MIXER COIL (TOP)
L122B	LW MIXER COIL (BOTTOM)
L123	13M OSCILLATOR COIL (BOTTOM)
L124	16M OSCILLATOR COIL (BOTTOM)
L125	19M OSCILLATOR COIL (BOTTOM)
L126	25M OSCILLATOR COIL (BOTTOM)
L127	31M OSCILLATOR COIL (BOTTOM)
L128	SW2 OSCILLATOR COIL (BOTTOM)
L129	SW1 OSCILLATOR COIL (BOTTOM)
L130A	BC OSCILLATOR COIL (BOTTOM)
L130B	LW OSCILLATOR COIL (TOP)
L201	2nd IF TRANSFORMER PRIMARY (TOP) } T203
L202	2nd IF TRANSFORMER SECONDARY (BOTTOM) }
L204	3rd IF TRANSFORMER PRIMARY (TOP) } T206
L205	3rd IF TRANSFORMER SECONDARY (BOTTOM) }
L206	3rd IF TRANSFORMER PRIMARY (TOP) } T207
L207	3rd IF TRANSFORMER SECONDARY (BOTTOM) }
L209	RATIO DETECTOR TRANSFORMER PRI (BOTTOM) } T208
L210	RATIO DETECTOR TRANSFORMER (TOP) }

NO.	TRANSFORMER CHART
T1	RF INPUT TRANSFORMER (WB)
T2	RF OUTPUT TRANSFORMER (WB)
T3	10.7 MHZ IF TRANSFORMER (WB)
T4	OSCILLATOR TRANSFORMER (WB)
T5	1st IF TRANSFORMER (FM)
T201	1st IF PRIMARY (AM)
T202	1st IF SECONDARY (AM)
T203	2nd IF TRANSFORMER (FM)
T204	2nd IF TRANSFORMER PRIMARY (AM)
T205	2nd IF TRANSFORMER SECONDARY (AM)
T206	3rd IF TRANSFORMER (FM)
T207	3rd IF TRANSFORMER (AM)
T208	RATIO DETECTOR TRANSFORMER (FM)
T209	4th IF TRANSFORMER PRIMARY (AM)
T201	BFO TRANSFORMER



PART NO.	DESCRIPTION
83-6544	Trim Strip (Part of S-78794)
83-6545	Trim Strip (Part of S-78794)
83-6574	Tuning Escutcheon Trim Strip (Part of S-78792)
83-6575	Chart Light Trim Strip (Part of S-78791)
83-7000	Lower Door Trim Strip (Part of S-91088)
83-7006	Protective Strip (Used on S-85392)
83-7420	Slide Switch Strip (Part of S-80963)
*83-7628	Grille Backing Strip (Cabinet Assem.)
*83-7629	Protective Cover Strip (Cabinet Assem.)
*83-8290	Insulating Strip Without Perforation (Cabinet Assembly)
85-1043	Slide Switch (Part of S-85392)
86-221	Terminal (Used on Black Wire)
86-232	Spade Terminal (2 Required)
93-799	Brass Washer (2 Part of S-85392)
93-1289	3/16 x 7/16 x 1/32 Thick Fibre Washer (Joins 15-108 & 78-1101)
93-1794	.082 x 1/4 x .015 Thick Brass Washer (1 Part of ea. S-78766) (2 Req.)
93-1818	Shoulder Washer (3 Joins S-80963 & S-85392)
*93-1863	Vinyl Washer (Part of 46-9437)
93-1884	Spring Washer (Part of S-91089)
*93-1892	Finish Washer (Used on Jack & Plug)
*94-1549	Bushing (Cover Panel) (Part of S-90896)
96-696	Pivot Leg (1 Part of ea. S-78766)
97-812	Stud (Part of S-78786)
*97-832	Stud (Part of S-91089)
*97-851	Shoulder Stud (Part of S-85389)
100-218	Chart Light Lamp - GE No. 123
*101-4976	Transistor Layout & Patent Label
*110-607	Grille Cloth (Part of S-85392)
112-320	6-20 x 3/8 Pan Hd. Self-Tap. Screw-Stat. Bronze (Joins 43-965 & 1-19)
112-1124	4-24 x 11/32 Special Fillister Hd. Self-Tap. Screw - Black Zinc Plate (4 Used on S-78786)
112-1376	4-24 x 3/8 Phillips Pan Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. S-85392)
112-1438	6-32 x 5/16 Special Hd. Mach. Screw (4 used on 57-6708, 5 Mt. S-85389 & 6Mt. S-85390)
112-1714	6-32 x 3/16 Phillips Pan Hd. Mach. Screw - Cadmium (4 Join 83-6544 & S-78794)
112-1865	6-20 x 7/16 Phillips Pan Hd. Self-Tap. Screw - Cadmium (1 Mts. 500MDR70)
112-1865	6-20 x 7/16 Phillips Pan Hd. Self-Tap. Screw - Cadmium (1 Mts. 500MDR70)
112-2032	6-20 x 7/16 Special Hd. Self-Tap. Screw-Stat. Bronze (1 Mts. Ea. 166-193) (4 Required)
112-2038	6-32 x 5/32 Special Hd. Mach. Screw-Stat. Bronze (4 Mt. 57-6658)
112-2065	4-24 x 1/4 Phillips Fl. Hd. Self-Tap. Screw-Chrome (4 Mt. S-78774)
112-2066	6-32 x 5/16 Special Hd. Mach. Screw - Chrome (4 Mt. 36-710)
112-2071	4-24 x 1/4 Phillips Pan Hd. Self-Tap. Screw - Stat. Bronze (1 Used on 80-1091 & 2 Used on 83-7006) (3 Required)
112-2072	6-20 x 3/8 Phillips Truss Hd. Self-Tap. Screw - Stat. Bronze (1 Mts. ea. 57-6994, S-85392 & 3 Part of S-80963) (6 Required)
112-2096	6-20 x 3/8 Phillips Fl. Hd. Self-Tap. Screw - Cadmium (2 Mt. ea. S-78766) (4 Required)
112-2097	6-20 x 1/2 Phillips Pan Hd. Self-Tap. Screw - Cadmium (3 Mt. 500MDR70)
*112-2122	4-24 x 1/4 Special Fl. Trim Hd. Screw - Cadmium (2 Mt. S-91088 & 6 Mt. S-91160) (8 Required)
114-811	6-20 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw-Stat. Bronze (2 Mt. ea. S-78786)
114-813	6-20 x 3/8 Hex Hd. Self-Tap. Screw-Stat. Bronze (4 Mt. S-78777)
114-1095	Special Hex Hd. Screw (Part of S-85392)
*166-105	Bumper (4 Required)
166-193	Cabinet Foot (4 Required)
188-140	Retaining Ring (Part of S-90896)
188-155	Knob Clamping Ring (Part of 46-7382)
188-168	Retaining Ring (1 Joins ea. 46-6251 & S-78786) (2 Required)
188-441	Knob Clamping Ring (Part of 46-6361 or 46-6828)
189-372	Plastic Bag
189-377	Envelope (For 57-6801)

*Denotes Parts Not Previously Used.

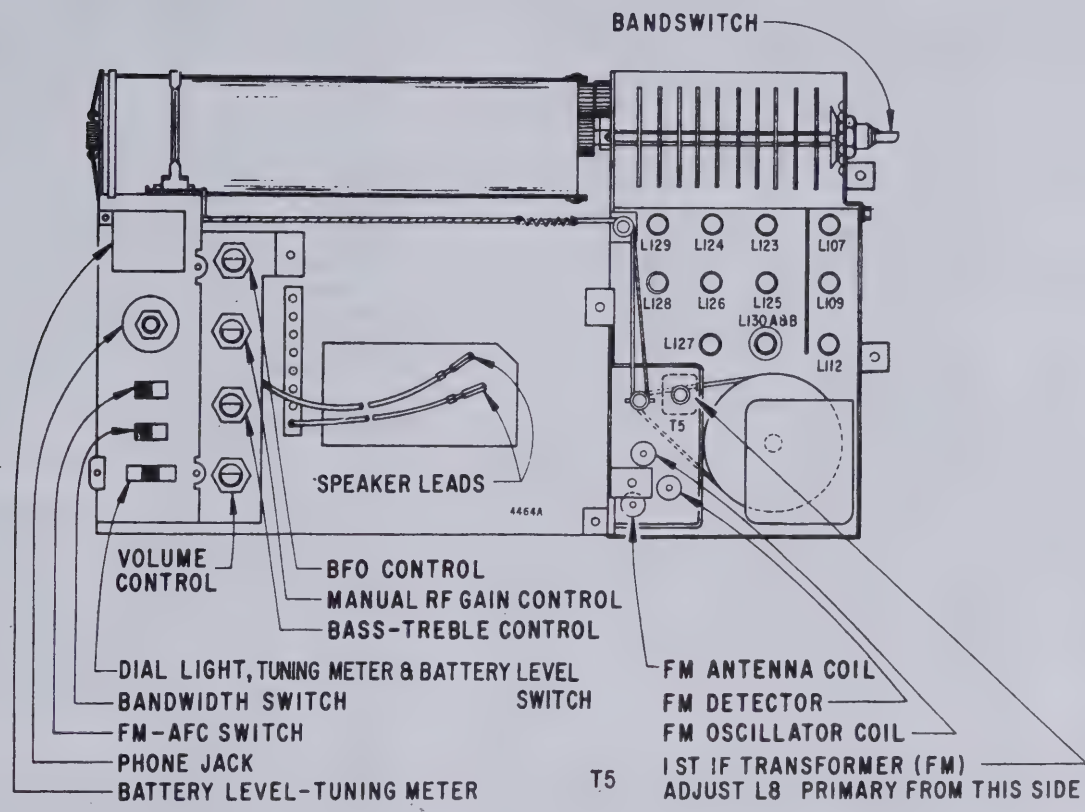
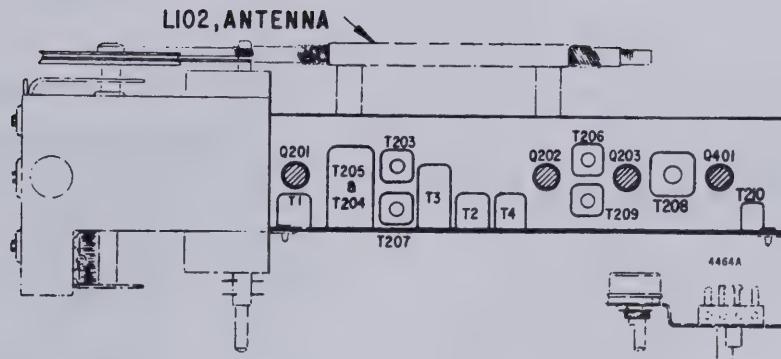
PART NO.	DESCRIPTION
192-418	Dial Crystal
199-466	Antenna Sleeve
*202-3433	Short Wave Chart Book
*202-3442	Instruction Book
*202-3443	Specifications Booklet, Operating
*202-3444	Service Manual Instruction Book (RD7000Y only)
*202-3658	Operating Guide Supplement. (RD7000Y-1 only)
*202-3659	Service Manual
*203-1399	Registration Card
220-142	Packing Cushioning Material (3 Required)
S-78766	Handle Swivel Assembly (2 Required)
S-78772	Chart Light Door & Socket Assembly (Part of S-78773)
S-78773	Chart Light & Tuning Escutcheon Assembly (Part of S-91160)
S-78777	Antenna & Sleeve Assembly
S-78778	Contact Spring & Strip Assembly - R.H.
S-78779	Contact Spring & Strip Assembly - L.H.
S-78786	Bracket & Stud Assembly (2 Required)
S-78791	Chart Light & Trim Strip Assembly
S-78792	Tuning Escutcheon & Trim Strip Assembly
S-78794	Upper Door & Trim Assembly
S-80527	Map Housing & Crystal Assem. (Trans-Oceanic - Zone Time)
S-80963	Plate & Stud Assem.
*S-85389	Cabinet End Plate Assem. - R.H.
*S-85390	Cabinet End Plate Assem. - L.H.
*S-85392	Cabinet Back Assem.
*S-85394	Lower Door & Trim Assem.
*S-90896	Battery Cover Assem.
*S-91088	Lower Door & Trim Assem. (Control Cover & Decoration)
*S-91089	Dial Scale Assem. (Compass Circular)
*S-91160	Main Cabinet & Trim Assem.

POWER SUPPLY COMPONENTS

22-4617	.01 MF
*22-6316	500 MF Electrolytic - 1 Section - 500V.
*23-38	Splice Cap. (RD7000Y-1 only)
63-1708	15 Ohm Resistor - 1/2 W. 10%
63-1932	3.3 Megohm Resistor - 1/2 W. 10%
79-174-12	No. 18 Sleeve - Yellow - 1-1/2"
83-3672	8 Lug Terminal Strip (Part of S-80964)
85-818	Slide Switch (Part of S-80964)
*85-1393	Circuit Breaker, Thermal, Self-Setting (RD7000Y-1 only)
86-512	Miniature Contacts (Wire Retaining Pin)
95-2671	Power Transformer
112-1438	6-32 x 5/16" Special Hd. Mach. Screw (Mts. 95-2671)
112-2072	6-20 x 3/8" Ph. Truss Hd. Self-Tap. Screw - Stat. Bronze (1 Mts. 95-2671 & S-80964, 2 Used On 83-3672) (4 Req.)
205-51	Silicone Grease
212-76	Silicon Rectifier (2 Req.)
S-80964	Switch Bracket & Terminal Strip Assem.

"OPTIONAL AT EXTRA COST"

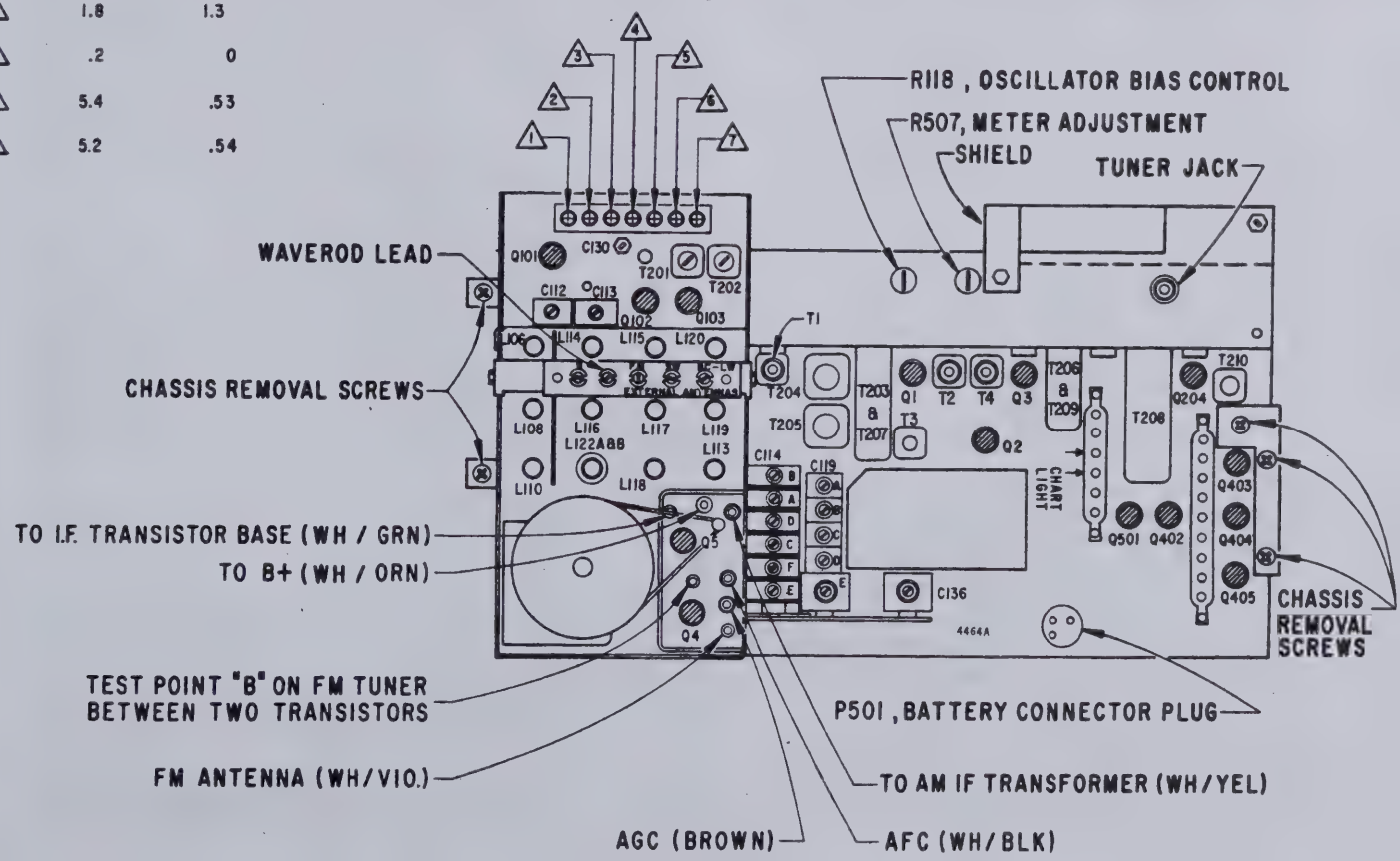
S-75893	Swivel Base Assem.
16-3527	Carton
57-6620	Base Support (Ring)
80-2034	Tension Spring (2 Req.)
93-1682	Spring Washer
93-1790	Base Washer
96-694	Leg - Left (2 Req.)
96-695	Leg - Right (2 Req.)
112-2041	6-18 x 1/4 Phillips Pan Hd. Self-Tap. Screw - N.P. (2 Mt. Ea. Leg Support)
112-2043	8-32 x 1/4 Phillips Fl. Hd. Mach. Screw - N.P. (3 Mt. S-78811)
112-2109	6-32 x 3/8 Phillips Fl. Hd. Mach. Screw - Spec. - N.P. (1 Used On Ea. 96-694 & 96-695) (4 Req.)
188-140	Retaining Ring
199-464	Spacer Sleeve (1 Used On Ea. 96-694 & 96-695) (4 Req.)
202-3070	Instruction Sheet
S-78811	Swivel Base Plate Assem. (Top)



TEST POINT VOLTAGES
(NO SIGNAL)

	AM	FM
①	1.75	.85
②	2.5	1.5
③	.03	0
④	1.8	1.3
⑤	.2	0
⑥	5.4	.53
⑦	5.2	.54

ING



PART NO.	DESCRIPTION
*95-2609	1st. I.F. Transformer (FM)
103-39	Diode, AFC
112-1373	Trimmer, Adjusting Screw
112-1467	2-56 x 5/16 Phillips Pan Hd. Mach. Screw - Cadmium (1 Mts. S-64842)
113-8	6-32 x 1/4 x 1/4 Hex Hd. Mach. Screw - N.P. - Internal Shakeproof Lockwasher (1 Mts. 22-5705 & 2 Mt. 22-5861) (3 Req.)
113-10	6-32 x 3/16 x 1/4 Hex Hd. Mach. Screw - N.P. - Internal Shakeproof Lockwasher (1 Mts. S-78649)
113-13	6-32 x 7/16 x 1/4 Hex Hd. Mach. Screw - N.P. - Ext. Shakeproof Lockwasher (3 Mt. 22-6874)
113-33	4-40 x 1/4 x 7/32 Hex Hd. Mach. Screw - Cadmium Internal Shakeproof Lockwasher
113-121	6-32 x 7/32 Phillips Rd. Hd. Mach. Screw - N.P. 22-3902 & 57-6867)
113-123	4-40 x 3/16 Phillips Rd. Hd. Mach. Screw - Cadmium - Internal Shakeproof Lockwasher (Mts. 12-3515)
114-39	8-32 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw - Cadmium (1 Used on S-78743, 4 Used on S-90975, 2 Used on S-79040 & 57-6678 & 2 join S-78743 & S-80653) (11 Required)
*121-687	Transistor - FM/AM Amplifier & Oscillator - R.F. Oscillator & Mixer (2 Required)
*121-871	Transistor, AM/RF
*121-872	Transistor, AM Mixer, AM-FM 1st. IF, AM-FM 2nd, IF, AM Oscillator, AM-FM 3 RD. IF & BFO (6 Required)
125-94	Rubber Grommet (3 Used on 22-6784)
126-857	Coil Shield (2 Required)
126-1027	Coil Shield (Part of S-78649)
*126-1331	Coil Shield (Part of S-78649)
149-74	Iron Core (1 Part of ea. S-45000) (2 Required)
149-211	Iron Core (25 Required)
149-311	Iron Core Sleeve (2 Required)
149-316	Iron Core & Pring (3 Required)
S-45000	Series Antenna Coupling Coil Assem. (2 Req.)
S-58095	FM Tuning Coil Assem. (3 Required)
S-58142	Pulley & Bushing Assem.
S-58179	Drive Cord & Eyelet Assem. - Gang (2 Req.)
S-64842	FM Tuner Driver Shaft Assembly
*S-78076	Oscillator Coil Assem. (B.C. & L.W.)
*S-78077	Antenna Coil Assem. (2-4 MHz) S.W. 1 Ant. Coil
*S-78078	Antenna Coil Assem. (4-9 MHz) S.W. 2 Ant. Coil
*S-78079	Antenna Coil Assem. (9.4-10 MHz) 31M
*S-78080	Antenna Coil Assem. (11.4-12.2 MHz) 25M
*S-78081	Antenna Coil Assem. (14.7-15.7 MHz) 19M
*S-78082	Antenna Coil Assem. (17.1-18.5 MHz) 16M
*S-78083	Antenna Coil Assem. (20.7-22.4 MHz) 13M
*S-78084	Oscillator Coil Assem. (2-4 MHz) S.W. 1 Osc. Coil
*S-78085	Oscillator Coil Assem. (4-9 MHz) S.W. 2 Osc. Coil
*S-78086	Oscillator Coil Assem. (9.4-10 MHz)
*S-78087	Oscillator Coil Assem. (11.4-12.2 MHz)
*S-78088	Oscillator Coil Assem. (14.7-15.7)
*S-78089	Oscillator Coil Assem. (17.1-18.5 MHz)
*S-78090	Oscillator Coil Assem. (20.7-22.4 MHz)
*S-78091	Mixer Coil Assem. (2-4 MHz) S.W. 1 Mixer Coil
*S-78092	Mixer Coil Assem. (4-9 MHz) S.W. 2 Mixer Coil
*S-78093	Mixer Coil Assem. (9.4-10 MHz)
*S-78094	Mixer Coil Assem. (11.4-12.2 MHz)
*S-78095	Mixer Coil Assem. (14.7-15.7 MHz)
*S-78096	Mixer Coil Assem. (17.1-18.5 MHz)
*S-78097	Mixer Coil Assem. (20.7-22.4 MHz)
*S-78649	Coil, Bracket & Shield Assem.
*S-78672	Oscillator Coil & Wire Assem. (B.C. & L.W.)
*S-78676	Oscillator Coil & Wire Assem. (11.4-12.2 MHz)
*S-78677	Oscillator Coil & Wire Assem. (14.7-15.7 MHz)
*S-78678	Oscillator Coil & Wire Assem. (17.1-18.5 MHz)
*S-78679	Oscillator Coil & Wire Assem. (20.7-22.4 MHz)
*S-78689	Mixer Coil & Wire Assem. (B.C. & L.W.)
*S-78691	Mixer Coil & Wire Assem. (4-9 MHz)
*S-78693	Mixer Coil & Wire Assem. (11.4-12.2 MHz)
*S-78694	Mixer Coil & Wire Assem. (14.7-15.7 MHz)
*S-78724	R.F. Housing Assembly
*S-78743	Coil Mtg. Bracket & Clip Assembly
*S-79040	Tuner Housing Assembly
*S-79780	Coil Mtg. Bracket Assembly
*S-80653	Bracket & Terminal Strip Assembly
*S-90975	RF Shelf Bracket & Terminal Strip Assem.

PART NO.	DESCRIPTION
MODELS ROYAL D7000Y AND ROYAL D7000Y-1 USING CHASSIS 500DMR70	
Z4NL	1-1/2V. Battery (9 Required)
1-19	Telescopic Antenna
11-247	Line Cord (Part of S-90896)
15-108	Socket Shell (Cabinet Back Assem.)
16-4205	Packing Carton
*26-2373	Dial Scale - Compass Circular 3 IN/8 Points (Part of S-91089)
*30-328	Decoration - Trim Strip - Left Side (Part of S-91160)
*30-329	Decoration - Trim Strip - Right Side (Part of S-91160)
*30-330	Decoration - Overlay, Radio - Trans - Oceanic (National Weather Service Band - Zenith Trans - Oceanic)
30-335	Decoration - Lower Cover Plate (Part of S-91089)
36-710	Handle (Portable Radio)
39-75B	Earphone (Part of S-90896)
43-965	Antenna Pivot Housing
43-1040	Battery Container (2 Required)
43-1099	Battery Container
*44-84	Jack (Tuner or Phono) (For 58-214)
46-6251	Sprocket Knob (2 Used on S-78786)
46-6361	Control Knob - Volume - Tone - Manual Gain (3 Required)
46-6828	Control Knob - B.F.O.
46-7382	Tuning Knob
*46-9437	Band Selector Control Knob
49-1143	4" x 6" PM Speaker
54-12	6-32 x 5/16 Hex Nut - Nickel (Part of S-85392)
54-347	6-32 'Keps' Nut (11 Mt. 112-1438, 4 Mt. 112-2066 & 4 Mt. 49-1143)
54-412	Speed Nut (4 Part of S-91160)
54-853	1/4-32 x 3/8 Hex Nut (Used on 44-84)
*54-789	Palnut (5 Mt. S-78792)
54-794	Tinnerman Speed Nut (3 Mt. 57-6658)
54-817	Tinnerman Speed Nut (8 Mt. 192-418)
56-557	Upper Door Pin (2 Required)
56-596	Lower Door Pin
56-605	Lower Door Pin
57-6649	Name Plate (Part of S-85394)
57-6657	Cabinet Top
57-6658	Base Plate, Cabinet
57-6679	Chart Light & Tuning Escutcheon (Part of S-78792)
57-6708	Speaker Escutcheon
57-6801	857-181 Control Overlay
57-6971	883-91 Grille Backing Strip
57-6994	938-16 Grille
57-7330	Name Plate - Trans-Oceanic
57-7769	Battery Panel (Part of S-90896)
58-214	Cord Retaining Plate (2 Part of S-90896)
58-316	Chassis Support Plate
*59-1048	Selector Knob Background Plate
69-262	Plug - Jack (Used on 44-84)
*73-123	A.C. Input Plug (Part of S-85392)
76-1770	Dial Slide
78-1101	8-32 x 1/2 Phillips Rd. Hd. Mach. Screw-Stat. Bronze (3 Used on S-85392)
78-1834	8-32 x 1/4 Allen Hd. Set Screw - Cuppoint (Part of 46-9437)
80-1091	Pivot Shaft (Part of S-78773)
80-1998	Three Contact Battery Socket (Cabinet Back Assem.)
80-2010	Pilot Light Socket & Wire (Part of S-78772)
80-2047	Dial Cord Tension Spring
80-2048	Contact Spring (Part of S-85392)
80-2078	Handle Spring (2 Required)
*80-2159	Contact Spring (Part of S-78778)
80-2165	Contact Spring (Part of S-78778 & S-78779) (2 Required)
83-2785	Spring (Part of S-78777)
83-3024	Spring - Lower Door (Part of S-85389)
*83-4311	Lower Door Spring (Part of S-91160)
83-6538	Rubber Strip (Cabinet Back)
83-6543	Rubber Strip (Cabinet Assembly)
	Cushioning Material 12 x 12 (Cabinet Assembly)
	Trim Strip (Used on 57-6658)
	Time Indicator Strip

*Denotes Parts Not Previously Used.

CIRCUIT DESCRIPTION

Model RD7000-1 is basically identical to RD7000 except for the addition of a thermal circuit breaker which will provide protection should the receiver be connected to an incorrect power source, or for any other condition which could possibly damage the power supply. When the circuit breaker "opens", it will cut off all power to the receiver for approximately 15 minutes. After this time it will automatically reset, restoring power to the receiver. If the circuit breaker cuts out again within a few minutes, check the voltage selector switch (See Figure 4, Item 29, in the Operating Guide) to be certain that it is set to the correct voltage position. In the event this fails to correct the condition, contact a qualified service technician.

Separate tuners are used on the FM (88-108 MHz) and the VHF Weather Band (161-164 MHz). The FM tuner consists of a RF amplifier and an Autodyne Converter operating in common base circuits. CR1 is the AFC diode. On the VHF Band the RF and Oscillator stages operate in common base circuits, while the Mixer is a common emitter circuit. The VHF VFO operates 10.7 MHz below the reception frequency. AFC is not applied to the VHF tuner. AGC for both tuners is obtained from the collector of the 2nd IF, via a small value capacitor, to diode CR201, and then to the base of the RF transistor as reverse bias. Two matched diodes located in T208 form part of the Ratio Detector circuit.

On AM the RF stage is common base for LW and BC, but is common emitter for all other bands (SW1 thru 31M). The Oscillator uses a common base circuit, while the Mixer and IF stages are in common emitter circuits. AM AGC is obtained from the AM Detector diode and supplied to the base of the RF transistor. AGC is then taken from the emitter of the RF transistor and fed to the base of the mixer and 1st IF transistors.

Audio circuitry is common to all bands and consists of 1st Audio, Pre-Driver, Driver, and diode biased class "B" push-pull complementary symmetry Output stage consisting of one NPN and one PNP transistor. An output jack, located on the upper part of the cabinet back, connected to the output of the 1st audio stage, permits this unit to be connected to external amplifiers. Gain of the Pre-Driver is increased when on the VHF band to compensate for the lower recovered audio, due to the reduced deviation of VHF Band transmissions.

This set can be operated from either 115 or 230 Volt AC sources. A switch, provided inside the set must be set to the desired voltage. In addition this set can be operated on 9, 1½ Volt "D" Cells (one cell only powers the Dial and Chart Lights, and must be installed if it is desired to use these lights while on AC operation). Automatic switching between AC and Battery operation is achieved by inserting the AC Cable into a socket located on the cabinet back.

TROUBLE SHOOTING AND SIGNAL TRACING

The old technique of "screwdriver testing" is definitely not recommended while trouble shooting any solid state product. In that method various circuit points were touched or shorted to ground to cause a hum or click in the speaker. This must be avoided because a solid state component can be destroyed if excessive voltage or if wrong polarity is applied.

Only standard point to point signal tracing with the proper RF, IF, and Audio Signal Sources should be used.

AM OSCILLATOR BIAS ADJUSTMENT

Stability of the AM Oscillator may be maintained over a wide range of battery supply voltage's. If a variable DC voltage supply is available adjustment may be made as follows:

1. Set Manual Gain Control to maximum clockwise position.
2. Rotate Band Switch to 13 meter position.
3. Connect the positive end of a 4½ volt battery to Test Point 3 while the negative end is connected in series with a volt meter. The other end of the meter is connected to Test Point 6. There should be a meter reading of approximately 0.5 to 1.0 volt.
4. Adjust Bias Control R118 for minimum voltage change on the meter while varying the DC supply between 8 and 12 volts.
5. Return Manual Gain Control to the Normal position.

BATTERY LEVEL METER ADJUSTMENT

This receiver is equipped with a combination Tuning and Battery Level Meter which will indicate the condition of the batteries being used. A meter reading in the blue section indicates good batteries. Under normal conditions no adjustment should be necessary. If the meter has been replaced or other repairs made which affect the meter circuit, adjustment may be made as follows. Use a supply of 9 volts and while holding the "Dial Light/Battery Level" switch in the BATTERY LEVEL position adjust control R507 so that the meter pointer lines up with the left edge of the blue section of the meter.

ALIGNMENT

Alignment wrenches, Zenith part number 68-32, 68-35, and 68-45 may be used for aligning this receiver. Charts for proper alignment are included in this service manual.

CHASSIS REMOVAL INSTRUCTIONS

To remove this chassis it will first be necessary to remove the B.F.O., Manual Gain, Tone, Volume and Tuning Knobs from the front panel. A set screw holds the Band Selector knob in place, and will be visible, from the rear, when in the 19M position. Loosen screw and remove knob. The chassis is mounted by five (5) screws. (See chassis layout drawing for location). Remove the screws and also the bracket secured by the three (3) right hand screws. Disconnect the speaker and chart light leads. The chassis is now free to be removed. *Note* — be certain to replace the bracket and screws when replacing chassis.

DIAL LIGHT REPLACEMENT

The dial light assembly is mounted to the dial scale drum by two screws. Lights may be replaced in the following manner. Remove cabinet back. Rotate Band Selector to BC position. Remove shield by *loosening* right hand screw (long) and remove the left hand screw. Lift shield out noting proper position. The dial drum will now be visible through a rectangular cut out at the top of the chassis. Remove the two screws (one at each end of the dial light assembly). Lift plate. These lights are Part Number 100-218.

Replace shield by inserting end tab in to ¼" hole in end of chassis and the folded tab over chassis. Replace left screw and tighten right hand screw.

ALIGNMENT PROCEDURE

STEP NO.	CONNECT GENERATOR TO	INPUT SIGNAL FREQUENCY	BAND I	DIAL FREQUENCY	ADJUST	PURPOSE
NOTE - Perform A.M. I.F. and B.F.O. alignment with bandwidth switch in sharp position, manual gain control off. Connect meter across speaker voice coil.						
1	Test Point "5"	455 KHz	BC	1600 KHz	T201, T202, T204 T205, T207, T209	Align A.M. I.F. for max.
NOTE - Turn B.F.O. Control ON and set to mid rotation with bandwidth switch in sharp.						
2*	Test Point "5"	455 KHz	BC	1600 KHz	T210	Adjust BFO for zero beat.
NOTE - Place bandwidth switch to normal and turn B.F.O. to off.						
3*	One turn loop loosely coupled to wavemagnet	1620 KHz	BC	1620 KHz Gang Open	C119C	Set B.C. oscillator to scale
4*		600 KHz	BC	600 KHz	C136	
5		Repeat steps 3 and 4 until minimum change				
6*		1420 KHz	BC	1420 KHz	C112, C119A	Align B.C. antenna and mixer for maximum
7*		600 KHz	BC	600 KHz	L122A	
8*		Repeat steps 6 and 7 until minimum change				
9*		405 KHz	LW	405 KHz Gang Open	C119D	Set L.W. Oscillator to scale.
10*		160 KHz	LW	160 KHz	C119E	
11		Repeat steps 9 and 10 until minimum change				
12*		375 KHz	LW	375 KHz	C113, C119B	Align L.W. Antenna and mixer for maximum
13*		160 KHz	LW	160 KHz	L122B	
14		Repeat steps 12 and 13 until minimum change				
NOTE - Align F.M. with A.F.C. switch off.						
15	Test Point "B" (**)	10.7 MHz modulated	FM	98 MHz	T5, T203, T206, and top of T208	Align F.M. I.F. and Ratio Detector Pri. Connect meter across voice coil and reduce input so output will not be greater than 0.4 volts.
16		10.7 MHz modulated	FM	98 MHz	Bottom of T208	Align FM Ratio Detector or Sec. Place meter probe on pin 6 of T208 and adjust bottom of T208 to zero after determining that there is a symmetrical swing around this zero point.
17		Repeat steps 15 and 16 until minimum change				
18	FM Antenna Terminals (**)	98 MHz modulated	FM	98 MHz	L7	Set FM Oscillator to scale-meter across voice coil.
19		98 MHz modulated	FM	98 MHz	L3, L5	Align FM antenna and detector for maximum
20		164 MHz	VHF	164 MHz	T4, T1, T2, T3	Align VHF
21		161 MHz	VHF	161 MHz	C130	Set VHF Oscillator to scale.
22		164 MHz	VHF	164 MHz	T4	Adjust T2 for equal output at 161 MHz and 164 MHz.
23		Repeat steps 21 and 22 until minimum change				
24		161 MHz	VHF	161 MHz	T2	
25		164 MHz	VHF	164 MHz	T2	
26	Repeat steps 24 and 25 until minimum change					
27	3 feet of wire approximately 1 foot from and parallel to Extended Waverod.	3.4 MHz	SW1	3.4 MHz	C114F	Set SW1 Oscillator to scale
28		1.8 MHz	SW1	1.8 MHz	L129	Align SW1 Antenna & mixer for maximum
29		Repeat steps 27 and 28 until minimum change				
30		3.4 MHz	SW1	3.4 MHz	C114B, C114D	
31		1.8 MHz	SW1	1.8 MHz	L120, L113	Set SW2 Oscillator to scale.
32		Repeat steps 30 and 31 until minimum change				
33		8.75 MHz	SW2	8.75 MHz	C114E	
34		3.9 MHz	SW2	3.9 MHz	L128	
35		Repeat steps 33 and 34 until minimum change				
36		8.75 MHz	SW2	8.75 MHz	C114A, C114C	Align SW2 Antenna & mixer for maximum
37		3.9 MHz	SW2	3.9 MHz	L112, L119	
38		Repeat steps 36 and 37 until minimum change				
39		9.7 MHz	31M	9.7 MHz	L110, L118, L127	Align 31M, 25M, 19M, 16M, and 13M Oscillator, Antenna and Mixer.
40		11.8 MHz	25M	11.8 MHz	L109, L117, L126	
41		15.2 MHz	19M	15.2 MHz	L108, L116, L125	
42		17.8 MHz	16M	17.8 MHz	L107, L115, L124	
43		21.6 MHz	13M	21.6 MHz	L106, L114, L123	

* Rock Tuning Capacitor when making adjustment.

** Probe from generator should be isolated through a .05 MFD Capacitor.

*** Probe from generator should be terminated with the proper resistor to match 72 ohm line output impedance.

PART NO.	DESCRIPTION
114-571	4-24 x 3/16 Hex Slotted Hd. Self-Tap. Screw-Stat. Bronze (2 Used On S-78718)
114-627	8-18 x 1-1/8 Hex Hd. Self-Tap. Screw – Cadmium Flat Washer Att. (2 Used On S-85229)
*114-784	8-18 x 0.310 x 0.250 Hex Hd. Slotted Screw – Stat. Bronze
121-430	Transistor 1st. Audio, Pre-Driver (2 Req.)
121-441	Transistor – Driver
121-692	Transistor – R.F. Oscillator Mixer (3 Req.)
*121-701	Transistor – Voltage Regulator
*121-872	Transistor – AM Mixer, AM - FM 1st. IF, AM-FM 2nd. IF & AM - FM 3rd. IF (4 Req.)
*122-38	Tuning Meter (R.F. & Battery Checker)
126-1554	Heat Sink
149-311	Ferrite Sleeve (4 Req.)
149-333	Ferrite Sleeve (3 Req.)
166-105	Bumper (2 Req.)
800-245	Output Trans. Asm. (Consists of 1-21-678 & 1-679)
S-23757	Choke Coil Assem. (2 Req.)
S-75005	Indicator Lamp Socket & Mtg. Strip Assem.
S-78651	Control Mtg. Bracket Assem.
*S-78717	Pulley & Bracket Assem.
*S-78718	Dial Drum Assem.
*S-78739	Drive Cord, Eyelet & Spring Assem. – Pointer Guide
*S-78740	Drive Cord & Eyelet Assem. – Dial Drive
*S-78741	Drive Cord & Eyelet Assem. – Dial Drive
S-85229	Wavemagnet Antenna Assem.
*S-90843	Dial Scale Assem. – Rectangular Scale & Drum (Radio)

R.F. TUNER COMPONENTS

12-3514	Coil Mtg. Bracket
12-3515	Slide Stop Bracket
12-3517	Tuner Slide Bracket
*12-5871	RF Shelf Bracket (Pt. Of S-90975)
19-322	Coil Mtg. Clip (2 Part Of S-78743 & 3 Part Of S-78649) (5 Req.)
19-442	Coil Mtg. Clip (21 Part Of S-78743)
20-1256	10.7 MHz Trap Coil
22-18	.0022 MF Disc Capacitor – 500V.
22-2371	25 PF Disc Capacitor – 25V.
22-2379	12 PF Disc Capacitor – 500V. (2 Req.)
22-2461	2 PF Glimmick Capacitor – 500V.
22-2594	17 PF Disc Capacitor – 500V.
22-2729	.001 MF Disc Capacitor – 25V.
22-2731	10 PF Disc Capacitor – 500V.
22-2898	13 PF Disc Capacitor
22-2979	60 PF Ceramic Capacitor – 500V.
22-3066	10 PF Gimmick Capacitor – 500V.
22-3309	1.8 PF Gimmick Capacitor – 500V.
22-3393	.01 MF Disc Capacitor – 25V. (4 Req.)
22-3538	125 PF Mica Capacitor – 100V.
22-3689	.05 MF Disc Capacitor – 25V. (14 Req.)
22-3748	.001 MF Disc Capacitor – 1KV.
22-3749	1000 PF Mica Capacitor – 100V.
22-3849	20 PF Disc Capacitor – 500V. (2 Req.)
22-3902	Single Section Trimmer Capacitor (Broadcast Padder)
22-3955	.1 MFD. Capacitor – 50 V.
22-4613	1000 PF Feed-Thru Capacitor – 500V. (5 Req.)
22-5037	.005 MF Disc Capacitor – 25V.
22-5092	30 PF Ceramic Capacitor – 500V.
22-5128	4 PF Disc Capacitor – 500V.
22-5164	1.2 PF Gimmick Capacitor – 500V.
22-5276	125 PF Ceramic Capacitor – 500V.
22-5318	34 PF Disc Capacitor – 500V.
22-5319	38 PF Disc Capacitor – 500V.
22-5320	42 PF Capacitor – 500V.
22-5348	Trimmer Capacitor – 500V.
22-5432	18 PF Disc Capacitor – 500V.
22-5585	750 PF Disc Capacitor – 500V.
*22-5588	60 PF Disc Capacitor – 500V.
22-5589	85 PF Disc Capacitor – 500V.
*22-5590	50 PF Ceramic Capacitor – 500V.
22-5705	Six Section Trimmer Capacitor – S.W. 2 Antenna Trimmer, S.W. 1 Antenna Trimmer, S.W. 2 Mixer Trimmer, S.W. 1 Mixer Trimmer, S.W. 2 Oscillator Trimmer, S.W. 1 Oscillator Trimmer

*Denotes Parts Not Previously Used

PART NO.	DESCRIPTION
*22-5861	Five Section Trimmer Capacitor – B.C. Mixer, L.W. Mixer, B.C. Oscillator, L.W. Oscillator & L.W. Oscillator Padder
*22-6017	Trimmer Capacitor – L.W. Antenna Trimmer (Fixed)
*22-6045	Trimmer Capacitor – B.C. Antenna Trimmer (Fixed)
22-6335	1800 PF Polystyrene Capacitor – 30V. 5%
22-6337	3900 PF Polystyrene Capacitor – 30V. 5%
*22-6874	3 Section Variable Capacitor (Antenna, Mixer & Oscillator Tuning)
22-1170	FM Tuner Cover
*52-1486	Coaxial Cable
*52-1608	Shielded Cable
*52-1781	Shielded Cable
*52-2034	Cable, 75 Ohm Coaxial
54-139	3/8-32 Hex Palnut (Used On 85-1208)
54-227	4-40 x 1/4 x 3/32 Thk. Hex Nut – N.P. (2 Used On 85-1208)
54-490	Hex Palnut Tension Nut (Used On S-90975)
54-633	Retaining Nut (Use Only When 78-165 Is Used) (2 Part Of S-79040)
*56-493	Guide Pin
*57-6678	Switch Mtg. Plate
*57-6867	Trimmer Mtg. Plate
61-222	Idler Pulley (2 Part Of S-78724)
63-1743	100 Ohm Resistor – 1/2 W. 10% (2 Req.)
63-1772	470 Ohm Resistor – 1/2 W. 20%
63-1775	560 Ohm Resistor – 1/2 W. 10% (2 Req.)
63-1779	680 Ohm Resistor – 1/2 W. 20%
63-1788	1200 Ohm Resistor – 1/2 W. 5%
63-1792	1500 Ohm Resistor – 1/2 W. 10%
63-1796	1800 Ohm Resistor – 1/2 W. 10%
63-1797	2000 Ohm Resistor – 1/2 W. + 5% – Insulated
63-1799	2200 Ohm Resistor – 1/2 W. 10%
63-1819	6800 Ohm Resistor – 1/2 W. 5%
63-1830	12K Ohm Resistor – 1/2 W. 5%
63-1897	470K Ohm Resistor – 1/2 W. 10% (2 Req.)
63-4101	10 Ohm Resistor – 1/4 W. 10%
63-4122	33 Ohm Resistor – 1/4 W. 10% (2 Req.)
*63-4140	82 Ohm Resistor – 1/4 W. 10%
63-4150	150 Ohm Resistor – 1/4 W. 10%
63-4157	220 Ohm Resistor – 1/4 W. 10% (2 Req.)
63-4175	560 Ohm Resistor – 1/4 W. 10%
63-4185	1000 Ohm Resistor – 1/4 W. 10%
63-4186	1000 Ohm Resistor – 1/4 W. 20%
63-4189	1200 Ohm Resistor – 1/4 W. 10% (2 Req.)
63-4192	1500 Ohm Resistor – 1/4 W. 10% (3 Req.)
63-4196	1800 Ohm Resistor – 1/4 W. 10%
63-4199	2200 Ohm Resistor – 1/4 W. 10% (2 Req.)
63-4220	6800 Ohm Resistor – 1/4 W. 10%
63-4224	8200 Ohm Resistor – 1/4 W. 10%
63-4231	12K Ohm Resistor – 1/4 W. 10% (2 Req.)
73-24	8-32 x 1/4 Slotted Hex Hd. Set Screw – Cuppoint (2 Part Of S-58142)
76-1474	Driver Shaft (Part Of S-64842)
78-1675	Transistor Socket (5 Req.)
78-1842	Transistor Socket (3 Req.)
79-174-12	No. 18 Sleeving – Yellow – 1-1/2"
80-209	Drive Cord Tension Spring
80-1467	Spring
80-1672	Retaining Spring
80-1951	Retaining Spring (1 Used On Ea. 94-613) (3 Req.)
83-2770	7 Lug Terminal Strip (Part Of S-90975)
83-3218	2 Lug Terminal Strip (Part Of S-79780)
*83-5668	4 Lug Terminal Strip (Part Of S-90975)
*83-6983	Antenna Terminal Strip (Part Of S-80653)
*85-1208	Bandswitch
86-306	Terminal
86-441	Insulated Feed-Thru Terminal (3 Req.)
93-920	.020 x .093 x 7/32 Steel Washer – Cadmium Plate (2 Part Of S-78724)
93-966	No. 1205 Internal Shakeproof Lockwasher – Cadmium (1 Used On Ea. 54-227) (2 Req.)
93-1793	Nylon Washer (Used On S-78724)
94-334	Capacitor Mtg. Bushing (3 Req.)
94-613	Iron Core Bushing (3 Req.)
95-2002	1st. I.F. Transformer (Primary) – AM
95-2003	1st. I.F. Transformer (Secondary) – AM

RA-43

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
22-2379	12 PF Disc Capacitor - 500V. (3 Req.)	63-4217	5600 Ohm Resistor - 1/4 W. 10%
22-2467	47 PF Ceramic Disc Capacitor - 500V. (2 Req.)	63-4227	10K Ohm Resistor - 1/4 W. 10% (4 Req.)
22-2594	17 PF Ceramic Disc Capacitor - 500V.	63-4231	12K Ohm Resistor - 1/4 W. 10% (2 Req.)
22-2595	60 PF Disc Capacitor - 500V.	63-4234	15K Ohm Resistor - 1/4 W. 10%
22-2654	50 PF Disc Capacitor - 500V.	63-4238	18K Ohm Resistor - 1/4 W. 10%
22-2703	220 PF Disc Capacitor - 500V. (2 Req.)	63-4241	22K Ohm Resistor - 1/4 W. 10%
22-2729	.001 MF Disc Capacitor - 25V.	63-4252	39K Ohm Resistor - 1/4 W. 10% (2 Req.)
22-2884	5 MF Electrolytic Capacitor - 12V. (2 Req.)	63-4266	82K Ohm Resistor - 1/4 W. 10%
22-2898	13 PF Disc Capacitor - 500V.	63-4272	120K Ohm Resistor - 1/4 W. 5%
22-2985	500 PF Electrolytic Capacitor - 12V.	63-4522	3.3 Ohm Resistor - 1/2 W. 10% (2 Req.)
22-3255	330 PF Disc Capacitor - 500V. (2 Req.)	*63-7125	Meter Adjust Control
22-3256	10 MF Electrolytic Capacitor - 6V.	*63-7126	Oscillator Bias Control
22-3393	.01 MF Disc Capacitor - 25V.	63-7135	Volume Control & Switch
22-3615	1 MF Electrolytic Capacitor - 25V. (2 Req.)	*63-7528	B.F.O. Control & Switch
22-3689	.05 MF Disc Capacitor - 25V. (12 Req.)	*63-7529	Tone Control
22-3748	.001 Disc Capacitor - 1000V. (2 Req.)	*63-7530	Manual Gain Control & Switch - 5K Ohm
22-3753	20 MF Electrolytic Capacitor - 3V.	64-6	1/8" Dia. x 3/16" Lg. Tubular Rivet (2 Req.)
22-3939	26 PF Disc Capacitor - 500V.	64-7	1/8" Dia. x 5/32" Lg. Tubular Rivet (2 Req.)
22-4571	200 MF Electrolytic Capacitor - 15V.	64-88	.088 Dia. x 1/8" Lg. Tubular Rivet (7 Req.)
22-4573	1000 MF Electrolytic Capacitor - 15V.	64-151	.088 Dia. x 3/32" Lg. Tubular Rivet (2 Pt. Of S-78651)
22-4728	1000 PF Feed-Thru Capacitor - 500V. (4 Req.)	64-288	Shoulder River (Pt. Of S-78717)
22-5092	30 PF Capacitor - 500V.	73-88	4-40 x 1/8 Allen Hd. Set Screw - Couppoint (Used On 34-662)
22-5192	300 MF Electrolytic Capacitor - 15V.	78-644	Connector Socket, Single Contact (Tuner Output Jack)
22-5413	100 MF Electrolytic Capacitor - 6V.	78-1675	Transistor Socket (3 Req.)
22-5432	18 PF Disc Capacitor - 500V. (3 Req.)	OR	
22-5583	.22 MF Capacitor - 50V.	78-1844	Transistor Socket (3 Req.)
*22-5586	43 PF Disc Capacitor - 500V. (2 Req.)	78-1838	Transistor Socket (4 Req.)
22-5596	.33 MF Capacitor - 50V. (2 Req.)	78-1842	Transistor Socket (6 Req.)
22-5652	.027 MF Tubular Capacitor - 50V.	79-174-12	No. 18 Sleeving - Yellow - 1-1/2"
22-5658	150 PF Disc Capacitor 10% - 1000V.	80-1140	Drive Tension Spring (2 Req.)
*22-5709	.68 MF Disc Capacitor - 3V.	*80-2125	Pointer Spring (Pt. Of S-78739)
22-5761	470 PF Disc Capacitor - 1KV.	83-3586	12 Lug Terminal Strip (2 Req.)
22-5819	6 PF Ceramic Disc Capacitor - 500V. (2 Req.)	83-3588	7 Lug Terminal Strip (2 Req.)
22-5989	.02 MF Disc Capacitor - 16V.	83-3641	5 Lug Terminal Strip
*34-552	Drive Gear	83-4997	4 Lug Terminal Strip (Pt. OF S-78651)
*34-662	Gear	83-5187	11 Lug Terminal Strip
44-34	Headphone Jack	83-5268	8 Lug Terminal Strip
*52-1458	Shielded Lead	83-5410	3 Lug Terminal Strip
54-139	3/8-32 x 9/16 Hex Palnut - Cadmium (1 Used On Ea. 63-7135, 63-7528, 63-7529, 63-7530)	*83-7596	Antenna Mtg. Strip (Pt. OF S-85229)
54-560	1/4-32 x 3/8 Palnut (Mts. 44-34)	*85-1013	Slide Switch - AFC (White) S.P.D.T.
54-633	Socket Retaining Nut (3 Used On 78-1685 Or 78-1844)	*85-1014	Slide Switch - Bandwidth (Blue) S.P.D.T.
58-235	3 Prong Plug (Power Supply Connector)	85-1015	Slide Switch - Tuning Meter & Dial Light (Black)
*59-904	Dial Pointer	86-329	Connector Terminal (1 Used on Ea. White & Black Wire)
61-222	Idler Pulley (Pt. Of S-78717)	86-441	Insulated Feed-Thru Terminal (3 Req.)
63-1715	22 Ohm Resistor - 1/2 W. 10% (2 Req.)	93-1043	Spring Washer
63-1722	33 Ohm Resistor - 1/2 W. 10%	*93-1792	.062 Thk. x .257 x 3/8 Wahser (Used On 34-552)
63-1740	82 Ohm Resistor - 1/2 W. 10%	*93-1825	3.8 O.D. x .257 I.D. x .031 Thk. Washer
63-1757	220 Ohm Resistor - 1/2 W. 10%	*94-1487	Spacer (1 Used On Ea. 114-627) (2 Req.)
63-1768	390 Ohm Resistor - 1/2 W. 10%	*95-2604	2nd I.F. Primary Transformer (AM)
63-1771	470 Ohm Resistor - 1/2 W. 10%	*95-2605	2nd. I.F. Secondary Transformer (AM)
63-1778	680 Ohm Resistor - 1/2 W. 10% (3 Req.)	95-2606	3rd. I.F. Transformer (AM)
63-1785	1000 Ohm Resistor - 1/2 W. 10% (2 Req.)	*95-2607	4th I.F. Transformer (AM)
63-1788	1200 Ohm Resistor - 1/2 W. 5%	*95-2608	Ratio Detector Transformer (FM)
63-1796	1800 Ohm Resistor - 1/2 W. 10%	95-2610	2nd. & 3rd. I.F. Transformer - FM (2 Req.)
63-1806	3300 Ohm Resistor - 1/2 W. 10% (2 Req.)	*95-2611	10.7 MHz I.F. Transformer (WB)
63-1817	5600 Ohm Resistor - 1/2 W. 10%	95-2613	RF Output Transformer 9WB)
63-1824	8200 Ohm Resistor - 1/2 W. 10%	*95-2634	B.F.O. Transformer
63-1834	15K Ohm Resistor - 1/2 W. 10%	*95-2985	RF Input Transformer (W.B.)
63-1857	51K Ohm Resistor - 1/2 W. 5%	*95-2986	Oscillator Transformer (W.B.)
63-1861	68000 Ohm Resistor - 1/2 W. 5%	100-218	Dial Light - GE No. 123 (2 Req.)
63-1897	470K Ohm Resistor - 1/2 W. 10%	103-31	Diode
63-4122	33 Ohm Resistor - 1/4 W. 10%	103-44	Diode
63-4133	56 Ohm Resistor - 1/4 W. 10%	103-140	Diode (Zener)
63-4143	100 Ohm Resistor - 1/4 W. 10%	*103-141	Diode - Audio (2 Req.)
63-4147	120 Ohm Resistor - 1/4 W. 10%	105-96	Integnet
63-4157	220 Ohm Resistor - 1/4 W. 10% (3 Req.)	*112-2099	6-20 x 1/4 Special Phillips Pan Hd. Self-Tap. Screw - Cadmium (2 Used On S-78651)
63-4161	270 Ohm Resistor - 1/4 W. 10%	113-40	6-32 x 1/4 Phillips Rd. Hd. Mach. Screw - Cadmium - Internal Shadeproof Lockwasher (2 Used On S-78717)
63-4171	470 Ohm Resistor - 1/4 W. 10% (5 Req.)	113-182	8-32 x 1/4 Lg. Phillips Rd. Hd. Mach. Screw - Cadmium - Ext. Shakeproof Lockwasher (2 Mt. S-78651 & 1 Mts. S-78717) (3 Req.)
63-4175	560 Ohm Resistor - 1/4 W. 10%	*113-210	8-32 x 0.875 CD 0.312 Hex Hd. Slotted Mach. Screw W/Washer (Mts. S-78651)
63-4178	680 Ohm Resistor - 1/4 W. 10% (2 Req.)	114-39	8-32 x 1/4 x 1/4 Hex Hd. Self-Tap. Screw - Cadmium (3 Mt. RF. Tuner)
63-4182	820 Ohm Resistor - 1/4 W. 10%		
63-4185	1000 Ohm Resistor - 1/4 W. 10% (3 Req.)		
63-4192	1500 Ohm Resistor - 1/4 W. 10%		
63-4196	1800 Ohm Resistor - 1/4 W. 10%		
63-4198	2200 Ohm Resistor - 1/4 W. 5%		
63-4199	2200 Ohm Resistor - 1/4 W. 10%		
63-4203	2700 Ohm Resistor - 1/4 W. 10% (3 Req.)		
63-4206	3300 Ohm Resistor - 1/4 W. 10% (3 Req.)		

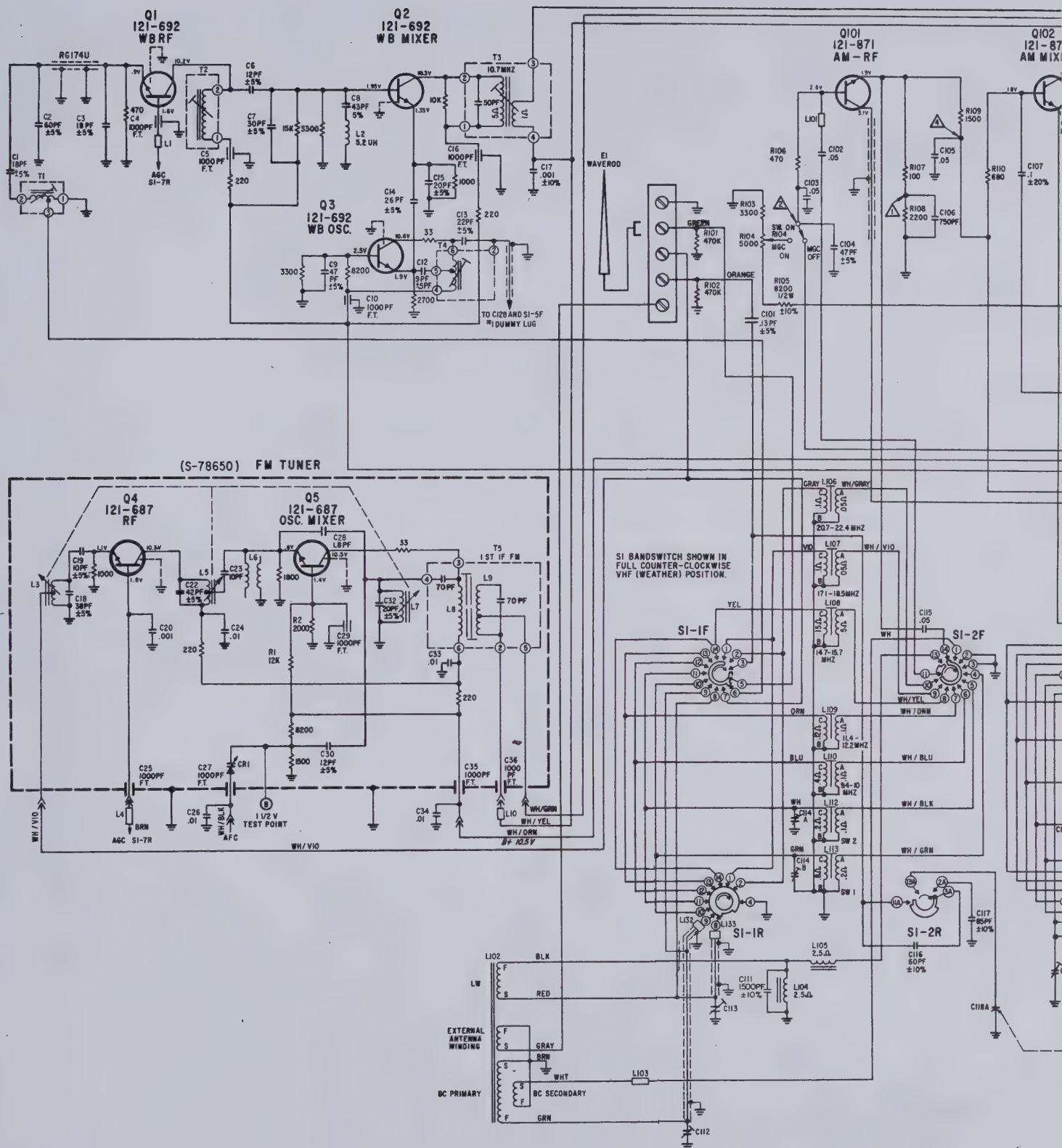
*Denotes Parts Not Previously Used.

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
CHASSIS 500MDR70			C132	22-5276	125 Pf Ceramic Tubular $\pm 2\%$ 500 V
C1	22-5432	18 Pf Ceramic Disc $\pm 5\%$ 500 V	C133	22-6335	1800 Pf Polystyrene Cap. $\pm 5\%$ 30 V
C2	22-2595	60 Pf Ceramic Disc $\pm 5\%$ 500 V	C134	22-5092	30 Pf Ceramic Disc $\pm 5\%$ 500 V
C3	22-5432	18 Pf Ceramic Disc $\pm 5\%$ 500 V	C135	22-6337	3900 Pf Polystyrene Cap. $\pm 5\%$ 30 V
C4	22-4728	1000 Pf F.T. 500 V	C136	22-3902	Broadcast Padder
C5	22-4728	1000 Pf F.T. 500 V	C137	22-5037	.005 Mfd Ceramic Disc 25 V
C6	22-2379	12 Pf Ceramic Disc $\pm 5\%$ 500 V	C138	22-5318	34 Pf Ceramic Disc $\pm 5\%$ 500 V
C7	22-5092	30 Pf Ceramic Disc $\pm 5\%$ 500 V	C139	22-5432	18 Pf Ceramic Disc $\pm 5\%$ 500 V
C8	22-5586	43 Pf Ceramic Disc $\pm 5\%$ 500 V	C140	22-3849	20 Pf Ceramic Disc $\pm 5\%$ 500 V
C9	22-2467	47 Pf Ceramic Disc $\pm 5\%$ 500 V	C141		
C10	22-4728	1000 Pf F.T. 500 V	C142	22-5128	4 Pf Ceramic Disc $\pm .25$ Pf 500 V
C11			C143	22-2379	12 Pf Ceramic Disc $\pm 5\%$ 500 V
C12	22-2514	9 Pf Ceramic Disc $\pm .5$ Pf 500 V	C144	22-3748	1000 Pf Ceramic Disc $\pm 10\%$ 1000 V
C13	22-3919	22 Pf Ceramic Disc $\pm 5\%$ 500 V	C145	22-3689	.05 Mfd Ceramic Disc 25 V
C14	22-3939	26 Pf Ceramic Disc $\pm 5\%$ 500 V	C146	22-18	.0022 Ceramic Disc $\pm 10\%$ 500 V
C15	22-3751	20 Pf Ceramic Disc $\pm 5\%$ 500 V	C147	22-3689	.05 Mfd Ceramic Disc 25 V
C16	22-4728	1000 Pf F.T. 500 V	C148	22-3689	.05 Mfd Ceramic Disc 25 V
C17	22-3748	.001 Mfd Ceramic Disc $\pm 10\%$ 1000 V	C201	22-2594	17 Pf Ceramic Disc $\pm 5\%$ 500 V
C18	22-5319	38 Pf Ceramic Disc $\pm 5\%$ 500 V	C202	22-3538	125 Pf Mica $\pm 5\%$ 100 V
C19	22-2731	10 Pf Ceramic Disc $\pm .5$ Pf 500 V	C203	22-3689	.05 Mfd Ceramic Disc 25 V
C20	22-2729	.001 Mfd Ceramic Disc 25 V	C204	22-3689	.05 Mfd Ceramic Disc 25 V
C21			C205	22-5586	43 Pf Ceramic Disc $\pm 5\%$ 500 V
C22	22-5320	42 Pf Ceramic Disc $\pm 5\%$ 500 V	C206	22-2898	13 Pf Ceramic Disc $\pm 5\%$ 500 V
C23	22-3066	10 Pf Tubular Gimmick 500 V	C207	22-3689	.05 Mfd Ceramic Disc 25V
C24	22-3393	.01 Mfd Ceramic Disc 25 V	C208	22-3689	.05 Mfd Ceramic Disc 25 V
C25	22-4613	1000 Pf F.T. 500 V	C209	22-5761	470 Pf Ceramic Disc $\pm 10\%$ 1000 V
C26	22-3393	.01 Mfd Ceramic Disc 25 V	C210	22-3689	.05 Mfd Ceramic Disc 25 V
C27	22-4613	1000 Pf F.T. 500 V	C211		
C28	22-3309	1.8 Pf Tubular Gimmick 500 V	C212	22-3689	.05 Mfd Ceramic Disc 25 V
C29	22-4613	1000 Pf F.T. 500 V	C213	22-5819	6 Pf Ceramic Disc $\pm 5\%$ 500 V
C30	22-2379	12 Pf Ceramic Disc $\pm 5\%$ 500 V	C214	22-2703	220 Pf Ceramic Disc $\pm 10\%$ 1000 V
C31			C215	22-3753	20 Mfd Electrolytic 3 V
C32	22-3849	20 Pf Ceramic Disc $\pm 5\%$ 500 V	C216	22-3955	.1 Mfd Mylar Tubular $\pm 10\%$ 50 V
C33	22-3393	.01 Mfd Ceramic Disc 25 V	C217	22-2729	.001 Mfd Ceramic Disc 25 V
C34	22-3393	.01 Mfd Ceramic Disc 25 V	C218	22-3689	.05 Mfd Ceramic Disc 25 V
C35	22-4613	1000 Pf F.T. 500 V	C219	22-3689	.05 Mfd Ceramic Disc 25 V
C36	22-4613	1000 Pf F.T. 500 V	C220	22-3689	.05 Mfd Ceramic Disc 25 V
C37	22-2729	.001 Mfd Ceramic Disc 25 V	C221		
C101	22-2898	13 Pf Ceramic Disc $\pm 5\%$ 500 V	C222	22-2379	12 Pf Ceramic Disc $\pm 5\%$ 500 V
C102	22-3689	.05 Mfd Ceramic Disc 25 V	C223	22-2654	50 Pf Ceramic Disc $\pm 5\%$ 500 V
C103	22-3689	.05 Mfd Ceramic Disc 25 V	C224	22-3255	330 Pf Ceramic Disc $\pm 10\%$ 500 V
C104	22-2467	47 Pf Ceramic Disc $\pm 5\%$ 500 V	C225	22-3955	.1 Mfd Mylar Tubular $\pm 10\%$ 50 V
C105	22-3689	.05 Mfd Ceramic Disc 25 V	C226	22-2884	5 Mfd Electrolytic 12 V
C106	22-5585	750 Pf Ceramic Disc $\pm 10\%$ 500 V	C227	22-5652	.027 Mfd Mylar Tubular $\pm 10\%$ 50 V
C107	22-3955	.1 Mfd Mylar Tubular $\pm 20\%$ 50 V	C228	22-5989	.02 Mfd Ceramic Disc $\pm 20\%$ 25 V
C108	22-3749	1000 Pf Mica ± 100 V	C229	22-5596	.33 Mfd Mylar Tubular $\pm 20\%$ 50 V
C109	22-3689	.05 Mfd Ceramic Disc 25 V	C230	22-3256	10 Mfd Electrolytic 6 V
C110	22-3689	.05 Mfd Ceramic Disc 25 V	C231		
C111	22-5459	1500 Pf Ceramic Disc $\pm 10\%$ 500 V	C232	22-3689	.05 Mfd Ceramic Disc 25 V
C112	22-6045	B.C. Antenna Trimmer (Fixed)	C233	22-3255	330 Pf Ceramic Disc $\pm 10\%$ 500 V
C113	22-6017	L.W. Antenna Trimmer (Fixed)	C234	22-3689	.05 Mfd Ceramic Disc 25 V
C114A	22-5705	S.W. 2 Antenna Trimmer	C235	22-3748	.001 Mfd Ceramic Disc $\pm 10\%$ 1000 V
C114B		S.W. 1 Antenna Trimmer	C236	22-3689	.05 Mfd Ceramic Disc 25 V
C114C		S.W. 2 Mixer Trimmer	C401	22-5596	.33 Mfd Mylar Tubular $\pm 20\%$ 50 V
C114D		S.W. 1 Mixer Trimmer	C402	22-2703	220 Pf Ceramic Disc $\pm 10\%$ 500 V
C114E		S.W. 2 Oscillator Trimmer	C403	22-2884	5 Mfd Electrolytic 12 V
C114F		S.W. 1 Oscillator Trimmer	C404	22-5583	.22 Mfd Mylar Tubular $\pm 20\%$ 50 V
C115	22-3689	.05 Mfd Ceramic Disc 25 V	C405	22-5709	.68 Mfd Ceramic Disc $\pm 30\%$ 3 V
C116	22-5588	60 Pf Ceramic Disc $\pm 10\%$ 500 V	C406	22-3615	1 Mfd Electrolytic 25 V
C117	22-5589	85 Pf Ceramic Disc $\pm 10\%$ 500 V	C407	22-13	.0033 Mfd Ceramic Disc 500 V
C118A	22-6874	Antenna Tuning	C408	22-5413	100 Mfd Electrolytic 6 V
C118B		Mixer Tuning	C409	22-3615	1 Mfd Electrolytic 25 V
C118C		Oscillator Tuning	C410	22-4571	200 Mfd Electrolytic 15 V
C119A		B.C. Mixer Trimmer	C501	22-3689	.05 Mfd Ceramic Disc 25 V
C119B	22-5861	L.W. Mixer Trimmer	C502	22-3689	.05 Mfd Ceramic Disc 25 V
C119C		B.C. Oscillator Trimmer	C503	22-3393	.01 Mfd Ceramic Disc 25 V
C119D		L.W. Oscillator Trimmer	C504	22-2985	500 Mfd Electrolytic 12 V
C119E		L.W. Oscillator Padder	C505	22-5192	300 Mfd Electrolytic 15 V
C120	22-3689	.05 Mfd Ceramic Disc 25 V	C506	22-4573	1000 Mfd Tubular Electrolytic 15 V
C121			C507	22-4617	.01 Mfd Ceramic Disc 500 V
C122	22-3689	.05 Mfd Ceramic Disc 25 V	C508	22-4617	.01 Mfd Ceramic Disc 500 V
C123	22-2371	25 Pf Ceramic Disc $\pm 10\%$ 500 V	C509	22-6316	500 Mfd Electrolytic 20 V
C124	22-5590	50 Pf Ceramic Disc $\pm 10\%$ 500 V	R1	63-9921-98	12K $\pm 5\%$ 1/4 W
C125	22-3689	.05 Mfd Ceramic Disc 25 V	R2	63-9921-79	2000 $\pm 5\%$ 1/4 W
C126	22-3689	.05 Mfd Ceramic Disc 25 V	R3	63-9922-36	470 K $\pm 5\%$ 1/4 W
C127	22-2979	60 Pf Ceramic Tubular $\pm 5\%$ 500 V	R101	63-9922-36	470K $\pm 5\%$ 1/4 W
C128	22-5164	1.2 Pf Molded Gimmick Cap. $\pm 5\%$ 500 V	R102	63-9922-36	470K $\pm 5\%$ 1/4 W
C129	22-2461	2 Pf Molded Gimmick Cap. $\pm 5\%$ 500 V	R103	63-9921-84	3300 $\pm 5\%$ 1/4 W
C130	22-5348	Ceramic Trimmer Capacitor 500 V	R104	63-7530	5K Ω Manual Gain Control & Switch
			R105	63-1824	8200 $\pm 10\%$ 1/2 W

*Denotes Parts Not Previously Used.

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
R106	63-9921-64	470 \pm 5% 1/4 W	L124	S-78089	16M Oscillator Coil (17.2-18.5 MHz)
R107	63-9921-48	100 \pm 5% 1/4 W	L125	S-78088	19M Oscillator Coil (14.7-15.7 MHz)
R108	63-9921-80	2200 \pm 5% 1/4 W	L126	S-78087	25M Oscillator Coil (11.4-12.2 MHz)
R109	63-9921-76	1500 \pm 5% 1/4 W	L127	S-78086	31M Oscillator Coil (9.4-10 MHz)
R110	63-9921-68	680 \pm 5% 1/4 W	L128	S-78085	S.W. 2 Oscillator Coil
R111			L129	S-78084	S.W. 1 Oscillator Coil
R112	63-9921-48	100 \pm 5% 1/4 W	L130A } L130B }	S-78076	{ B.C. Oscillator Coil L.W. Oscillator Coil
R113	63-9921-66	560 \pm 5% 1/4 W	L132	149-311	Iron Core Sleeve
R114	63-9921-78	1800 \pm 5% 1/4 W	L133	149-311	Iron Core Sleeve
R115	63-9921-92	6800 \pm 5% 1/4 W	L201	IN T203 TOP	2nd IF Transformer Pri 10.7 MHz
R116	63-1788	1200 \pm 5% 1/2 W	L202	IN T203 BOT	2nd IF Transformer Sec 10.7 MHz
R117	63-9921-66	560 \pm 5% 1/4 W	L203	S-23757	5.2 UH Choke Coil
R118	63-7126	Oscillator Bias Control 10K Ω	L204	IN T206 TOP	3rd IF Transformer Pri 10.7 MHz
R201	63-9921-66	560 \pm 5% 1/4 W	L205	IN T206 BOT	3rd IF Transformer Sec 10.7 MHz
R202	63-9921-72	1000 \pm 5% 1/4 W	L206	IN T207 TOP	3rd IF Transformer Pri 455 KHz
R203	63-9921-72	1000 \pm 5% 1/4 W	L207	IN T207 BOT	3rd IF Transformer Sec 455 KHz
R204	63-9921-68	680 \pm 5% 1/4 W	L208	20-1256	10.7 MHz Trap Coil
R205	63-9921-68	680 \pm 5% 1/4 W	L209	IN T208 BOT	Ratio Detector Transformer Pri 10.7 MHz
R206	63-9921-84	3300 \pm 5% 1/4 W	L210	IN T208 TOP	Ratio Detector Transformer Sec 10.7 MHz
R207	63-9922-22	120K \pm 5% 1/4 W	L211		
R208	63-9921-68	680 \pm 5% 1/4 W	L212	149-333	Iron Core Sleeve
R209	63-7528	B.F.O. Control and Switch 2500 Ω	L401	149-333	Iron Core Sleeve
R210	63-9921-62	390 \pm 5% 1/4 W	L402	149-333	Iron Core Sleeve
R211			T1	95-2985	RF Input Transformer (W.B.)
R212	63-1796	1800 \pm 10% 1/2 W	T2	95-2613	RF Output Transformer (W.B.)
R401	63-1771	470 \pm 10% 1/2 W	T3	95-2611	10.7 MHz I.F. Transformer (W.B.)
R402	63-7529	50K Tone Control	T4	95-2986	Oscillator Transformer (W.B.)
R403	63-1785	1000 \pm 10% 1/2 W	T5	95-2609	1st IF Transformer (FM)
R404	63-7135	25K Volume Control & Switch	T201	95-2002	1st IF Primary Transformer (AM)
R405	63-1757	220 \pm 10% 1/2 W	T202	95-2003	1st IF Secondary Transformer (AM)
R406	63-1857	51K \pm 5% 1/2 W	T203	95-2610	2nd IF Transformer (FM)
R407	63-1834	15K \pm 10% 1/2 W	T204	95-2604	2nd IF Primary Transformer (AM)
R408	63-1722	33 \pm 10% 1/2 W	T205	95-2605	2nd IF Secondary Transformer (AM)
R409	63-1861	68K \pm 5% 1/2 W	T206	95-2610	3rd IF Transformer (FM)
R410	63-1817	5600 \pm 10% 1/2 W	T207	95-2606	3rd IF Transformer (AM)
R411			T208	95-2608	Ratio Detector Transformer (FM)
R412	63-4522	3.3 \pm 10% 1/2 W	T209	95-2607	4th IF Primary Transformer (AM)
R413	63-4522	3.3 \pm 10% 1/2 W	T210	95-2634	B.F.O. Transformer
R414	63-1788	1200 \pm 5% 1/2 W	TS01	95-2671	Power Transformer
R501	63-9921-32	22 \pm 5% 1/4 W	CRI	103-39	AFC Diode
R502	63-9921-80	2200 \pm 5% 1/4 W	CR201	103-44	Crystal Diode
R503	63-1740	82 \pm 10% 1/2 W	CR202	103-31	Crystal Diode
R504	63-1715	22 \pm 10% 1/2 W	CR401	103-141	Audio Diode
R505	63-1932	3.3 Meg \pm 10% 1/2 W	CR402	103-141	Audio Diode
R506	63-1708	15 \pm 10% 1/2 W	CR501	103-140	Zener
R507	63-7125	Meter Adjustment Control 100K Ohm	CR502	212-76	Silicon Rectifier
L1	149-311	Iron Core Sleeve	CR503	212-76	Silicon Rectifier
L2	S-23757	5.2 UH Choke Coil	S1	85-1208	Bandswitch
L3	S58095	Antenna Coil Assembly	S2	85-1013	Sideswitch S.P.D.T. A.F.C. (White)
L4	149-311	Iron Core Sleeve	S201	85-1014	Sideswitch S.P.D.T. Bandwidth (Blue)
L5	S58095	Det. Coil Assembly	S202	85-1015	Sideswitch (Momentary Contact) (Black)
L6	20-1256	10.7 MHz Trap Coil	S501	85-818	Sideswitch D.P.D.T. 230-115V A.C.
L7	S58095	Osc. Coil Assembly	S502	85-1043	Sideswitch S.P.S.T.
L8	IN T5	1st IF Transformer Pri. F.M.	S503	85-1393	Circuit Breaker, Thermal, Self-setting (Used on RD-7000Y-1 Only)
L9	IN T5	1st IF Transformer Sec. F.M.	DS501	100-218	Dial Light Lamp
L10	149-311	Iron Core Sleeve	DS502	100-218	Dial Light Lamp
L101	149-311	Iron Core Sleeve	DS503	100-218	Chart Lamp
L102	S-85229	Wavemagnet Winding Assembly (Fixed)	P401	58-214	Tuner Plug (On Cabinet Back)
L103	149-311	Iron Core Sleeve	P501	58-235	Three Pin Power Supply Connector
L104	S-45000	Series Antenna Coupling Coil Assembly	P502	58-316	AC Input Plug
L105	S-45000	Series Antenna Coupling Coil Assembly	J401	78-644	Tuner Output Jack
L106	S-78083	13M Antenna Coil (20.7-22.4 MHz)	J402	44-34	Headphone Jack
L107	S-78082	16M Antenna Coil (17.1-18.5 MHz)	J403	44-84	Tuner Jack
L108	S-78081	19M Antenna Coil (14.7-15.7 MHz)	J501	78-1101	Battery Socket
L109	S78080	25M Antenna Coil (11.4-12.2 MHz)	BT501	Z4NL	1 1/2V Battery (9 Required)
L110	S-78079	31 M Antenna Coil (9.4-10 MHz)	LS401	49-1143	4" x 6" P.M. Speaker
L111			M201	122-38	Meter (Tuning and Battery Level)
L112	S-78078	S.W. 2 Antenna Coil	Z201	105-96	Integnet
L113	S-78077	S.W. 1 Antenna Coil	E1	1-19	Waverod
L114	S-78097	13M Mixer Coil (20.7-22.4 MHz)			
L115	S-78096	16M Mixer Coil (17.1-18.5 MHz)			
L116	S-78095	19M Mixer Coil (14.7-15.7 MHz)			
L117	S-78094	25M Mixer Coil (11.4-12.2 MHz)			
L118	S-78093	31M Mixer Coil (9.4-10 MHz)			
L119	S-78092	S.W. 2 Mixer Coil			
L120	S-78091	S.W. 1 Mixer Coil			
L121					
L122A) L122B)	S-83512	{ B.C. Mixer Coil L.W. Mixer Coil			
L123	S-78090	13M Oscillator Coil (20.7-22.4 MHz)			
			PART NO.	DESCRIPTION	
				CHASSIS 500MDR70	
			12-4850	Meter Mtg. Bracket	
			20-1256	10.7 MHz Trap Coil	
			22-13	.0033 MF Disc Capacitor - 500V.	

*Denotes Parts Not Previously Used.



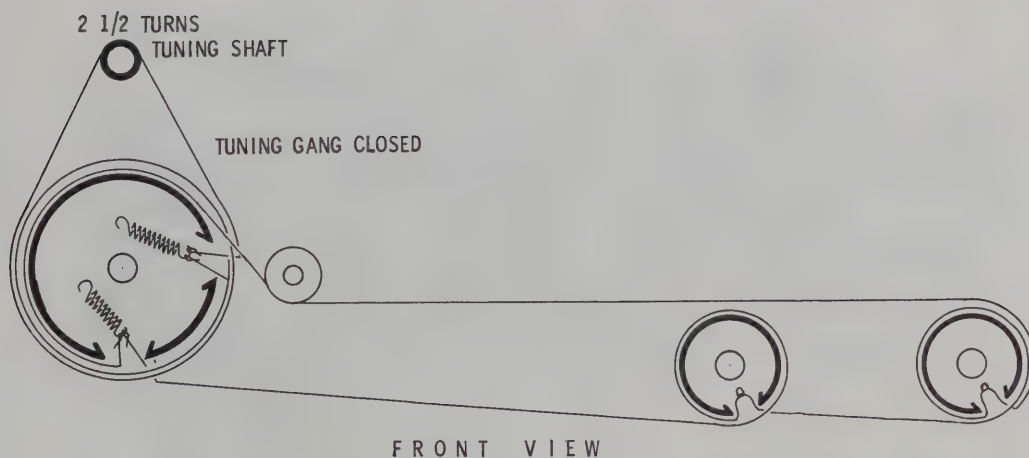


ZENITH MODEL
Royal 2000 (Ch. 11ET40Z2)

ZENITH MODEL
Royal 2000 (Ch. 11ET40Z2)

TRADE NAME	Zenith Model Royal 2000 (Ch. 11ET40Z2)		
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois		
TYPE SET	Battery Operated Transistorized Portable FM-AM Receiver		
POWER SUPPLY	12 Volts DC	RATING	20MA @ 12 Volts DC (No Signal, Min. Volume) 25MA @ 12 Volts DC (Signal, Normal Volume) AM 40MA @ 12 Volts DC (Signal, Normal Volume) FM
TUNING RANGE—BROADCAST	540—1600KC		
FREQ. MOD.	88 — 108MC		

DIAL CORD STRINGING

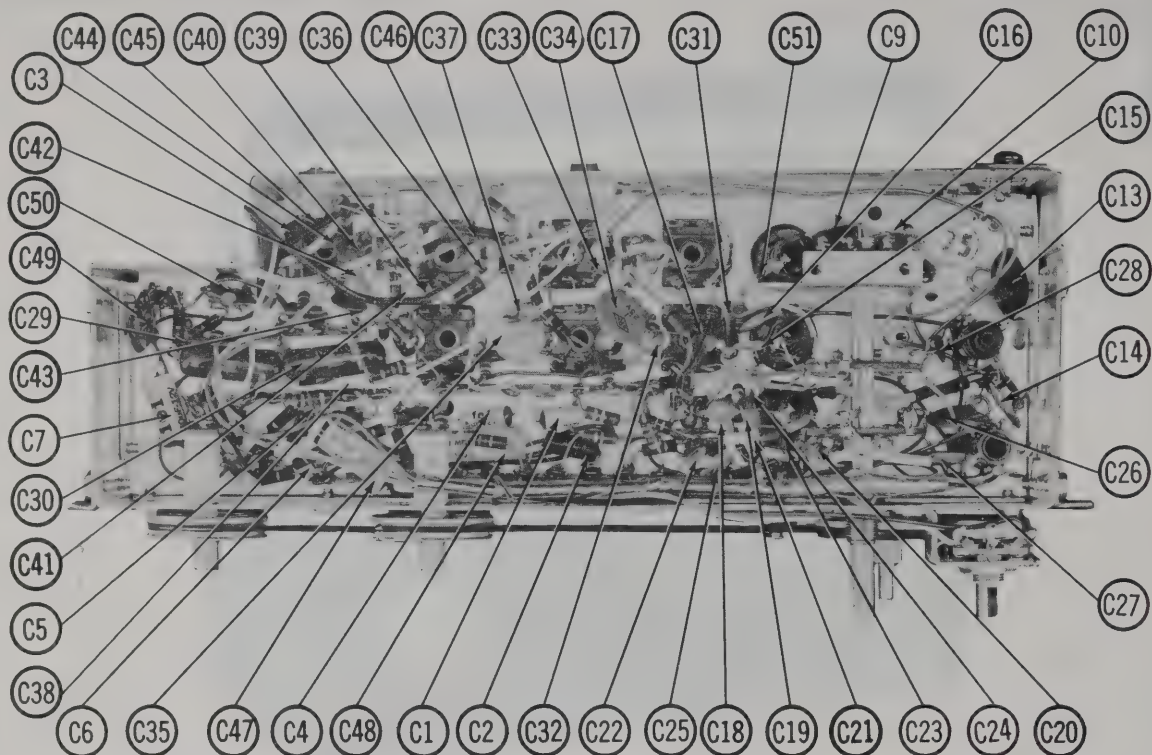


HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

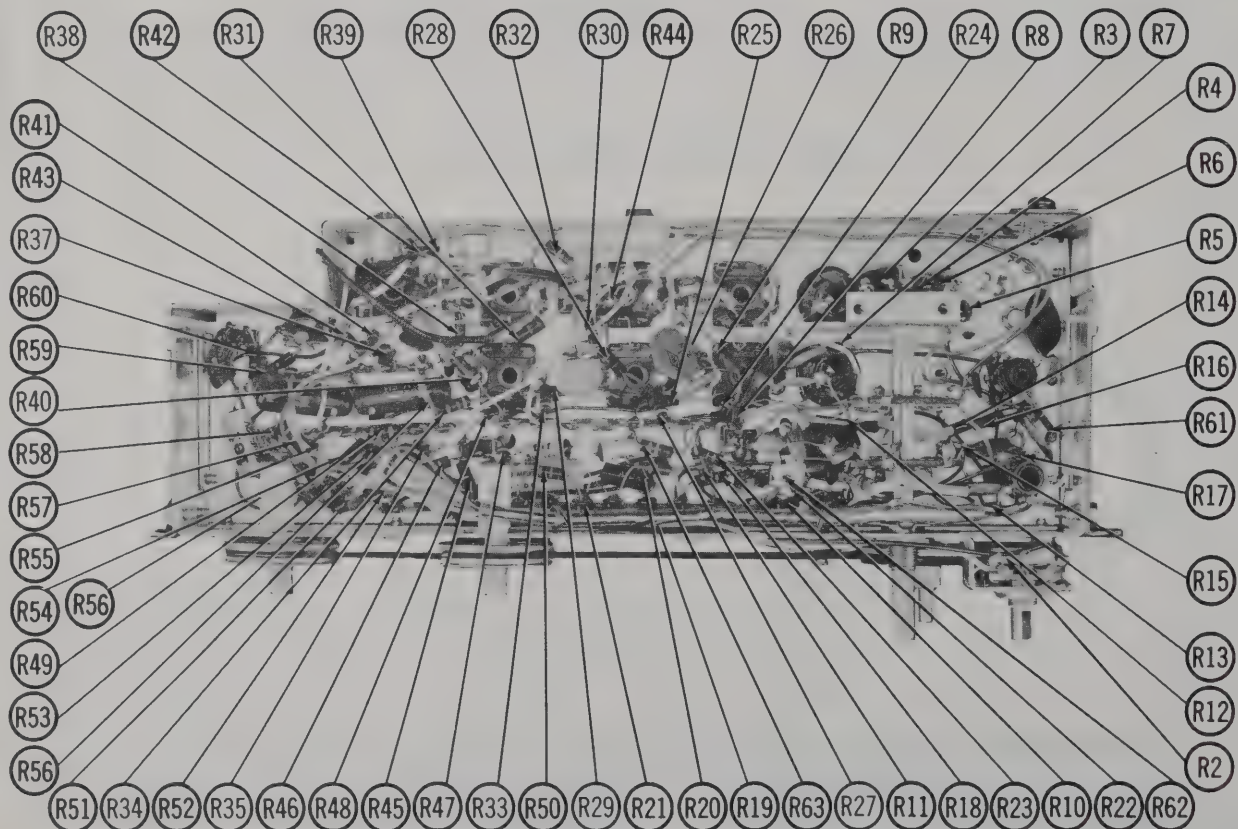


The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KK837

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1961 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



CHASSIS BOTTOM VIEW-CAPACITOR IDENT.



CHASSIS BOTTOM VIEW-RESISTOR IDENT.

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	MFG. PART No.	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	121-134	FM RF Amplifier	2N1177		PNP
X2	121-136	FM-AM Mixer	2N1179		PNP
X3	121-135	FM-AM Osc.	2N1178		PNP
X4	121-148	FM AFC	2N1406		PNP
X5	121-138	1st FM-AM IF Amp.	2N1180		PNP
X6	121-137*	2nd FM-AM IF Amp.	2N1180		PNP
X7	121-139	3rd FM IF Amp.	2N1180		PNP
X8	121-64	AF Amplifier	2N408		PNP
X9	121-46	Driver	2N362		PNP Matched Pair
X10	121-47	Output	2N360		PNP
X11	121-47	Output	2N270		PNP

* Alternate.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	VOLT.	ZENITH PART No.	REPLACEMENT DATA		
				AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.
C1	5	12	22-2884	PTT51	NLW5-15	MTI-3
C2	15	12	22-2884	PTT40	NLW5-12	MTI-11
C3	5	25	22-2884	PTT77	NLW5-15	MTI-3
C4	5	12	22-2884	PTT51	NLW5-15	MTI-3
C5	5	12	22-2884	PTT51	NLW5-15	MTI-3
C6	5	12	22-2884	PTT51	NLW5-15	MTI-3
C7	50	12	22-2883	PTT59	NLW50-15	MTI-16
C8	500	12	22-2883	PR5170	BR5001	QTI-31

① Some versions may use 16mf@3V in this application (Part #22-2871).

② Some versions may use 5mf@12V in this application (Part #22-2884).

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C9	.05	#22-3264	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C10	.0047 10%		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C11	.0047 10%	#22-3268	DI-4700		CCD-472	JL-247	10TS-D47
C12	.0047 10%		BPD-.05	DDA-503	IDP-2-503	JL-247	10TS-D47
C13	.05	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C14	.05		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C15	.05	#22-2990	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C16A	.05		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C17	.0033 10%	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C18	2 N750 ±.5mmf		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C19	.05	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C20	2.2 5%		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C21	5 N3300	#22-2990	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C22	470		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C23	15 N750 5%	#22-2990	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C24	.05		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C25	.005	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C26	.05		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C27	.1 25V	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C28	100		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C29	.15 50V	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C30	.15 50V		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C31	.05	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C32A	.05		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C33	2.2 5%	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C34	.1 25V		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C35A	.05	#22-2585	BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47
C36	2.2 5%		BPD-.05	DDA-503	IDP-2-503	TA-150	10TS-D47

FOLDER 19

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C37	.05	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C38	.005		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C39	8 NPO 10%	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C40	.005		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C41	.005	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C42	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C43	.02	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C44	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C45	.02	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C46	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C47	.02	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C48	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C49	.02	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C50	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C51	.02	#22-3259	BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550
C52	.02		BPD-.05	DDA-503	IDP-2-503	TA-150	TG-550

Zenith Part Number.

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			ZENITH PART No.	CLEARSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	10K	#22-3259	63-4682				Volume
R2A	50K		63-4745				Power Off-On
R3A	50K	#22-3259	63-4745				Tone
R4A	50K		63-4745				Volume

① Some versions may use 50K Tone (Part #63-4683).

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			ZENITH PART No.	CLEARSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R3	470Ω	#22-3259	63-4682				Volume
R4	27K		63-4745				Power Off-On
R5	2200Ω	#22-3259	63-4745				Tone
R6	1000Ω		63-4745				Volume
R7	1000Ω	#22-3259	63-4745				Volume
R8	470Ω		63-4745				Power Off-On
R9	1000Ω	#22-3259	63-4745				Tone
R10	10K		63-4745				Volume
R11	220Ω	#22-3259	63-4745				Volume
R12	100Ω		63-4745				Power Off-On
R13	18K	#22-3259	63-4745				Tone
R14	330Ω		63-4745				Volume
R15	150K	#22-3259	63-4745				Volume
R16	3300Ω		63-4745				Power Off-On
R17	560Ω	#22-3259	63-4745				Tone
R18	220K		63-4745				Volume
R19	22K	#22-3259	63-4745				Volume
R20	15K		63-4745				Power Off-On
R21	15K	#22-3259	63-4745				Tone
R22	56Ω		63-4745				Volume
R23	10K	#22-3259	63-4745				Volume
R24	470Ω		63-4745				Power Off-On
R25	1000Ω	#22-3259	63-4745				Tone
R26	820Ω		63-4745				Volume
R27	470Ω	#22-3259	63-4745				Volume
R28	1800Ω		63-4745				Power Off-On
R29	12K	#22-3259	63-4745				Tone
R30	680Ω		63-4745				Volume
R31	1000Ω	#22-3259	63-4745				Volume
R32	120Ω		63-4745				Power Off-On
R33	470Ω	#22-3259	63-4745				Tone
R34	470Ω		63-4745				Volume
R35	5600Ω	#22-3259	63-4745				Volume
R36	820Ω		63-4745				Power Off-On
R37	2200Ω	#22-3259	63-4745				Tone
R38	470Ω		63-4745				Volume
R39	270Ω	#22-3259	63-4745				Volume
R40	470Ω		63-4745				Power Off-On
R41	5600Ω	#22-3259	63-4745				Tone
R42	5600Ω		63-4745				Volume
R43	15K	#22-3259	63-4745				Volume
R44	47K		63-4745				Power Off-On
R45	18K	#22-3259	63-4745				Tone
R46	220K		63-4745				Volume
R47	47Ω	#22-3259	63-4745				Volume
R48	2200Ω		63-4745				Power Off-On
R49	470Ω	#22-3259	63-4745				Tone
R50	330Ω		63-4745				Volume
R51	82Ω	#22-3259	63-4745				Volume
R52	330K		63-4745				Power Off-On
R53	10K	#22-3259	63-4745				Tone
R54	100Ω		63-4745				Volume
R55	5600Ω	#22-3259	63-4745				Volume
R56	5600Ω		63-4745				Power Off-On

ZENITH MODEL
Royal 2000 (Ch. 11ET40Z2)

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA		REMARKS
		IRC PART No.	WORKMAN TV PART No.			IRC PART No.	WORKMAN TV PART No.	
R57	270Ω			R61	470Ω			
R58	Thermistor			R62	470Ω			
R59	6.8Ω			R63	100K			(120K) *
R60	6.8Ω							

* Alternate.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		ZENITH PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.
L1	FM Ant.	S-48703				
L2	Loopstick	S-49070				
L3	FM RF	S-48705				
L4	FM RF	S-48710				
L5	FM RF	S-48707				
L6	FM Osc.	S-48712				
L7	AM Osc.	S-23757				
L8	RF Choke	S-48712				
L9	1st FM IF	95-1738				
L10	1st AM IF	95-1735				
L11	2nd FM IF	95-1739				
L12	2nd AM IF	95-1736				
L13	3rd FM IF	95-1739				
L14	Ratio Detector	95-1737				
		95-1740				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA				NOTES
		ZENITH PART No.	Merit PART No.	Stancor PART No.	Triad PART No.	
T1	1.8 1	95-1741				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		ZENITH PART No.	Merit PART No.	Stancor PART No.	Triad PART No.	
T2	350Ω CT 3-4Ω	95-1742				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	QU'AM PART No.	
SP1	5" x 7" PM 3-4Ω	49-921	57A15	

BATTERIES

ITEM No.	VOLTAGE	ZENITH PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	1.5V	Z2NL	"A" 230	"A" A100	"B" M-13R	8 Required

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	GENERAL ELECTRIC PART No.	
M2	IN541		RAYTHEON PART No.	
M3	IN541		IN295	
			IN295	Ratio Detector

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M4	Tuning Cap.	22-3247	
M5	Band Switch	85-641	3 Gang (Ant. 15-296mmf, RF 10-180mmf, Osc. 5-67mmf)
M6	Switch	85-642	Rotary Wafer Type
M7	Dipole Antenna	S-48764	Radio-Phono-Tuner (3 Position Slide Type)

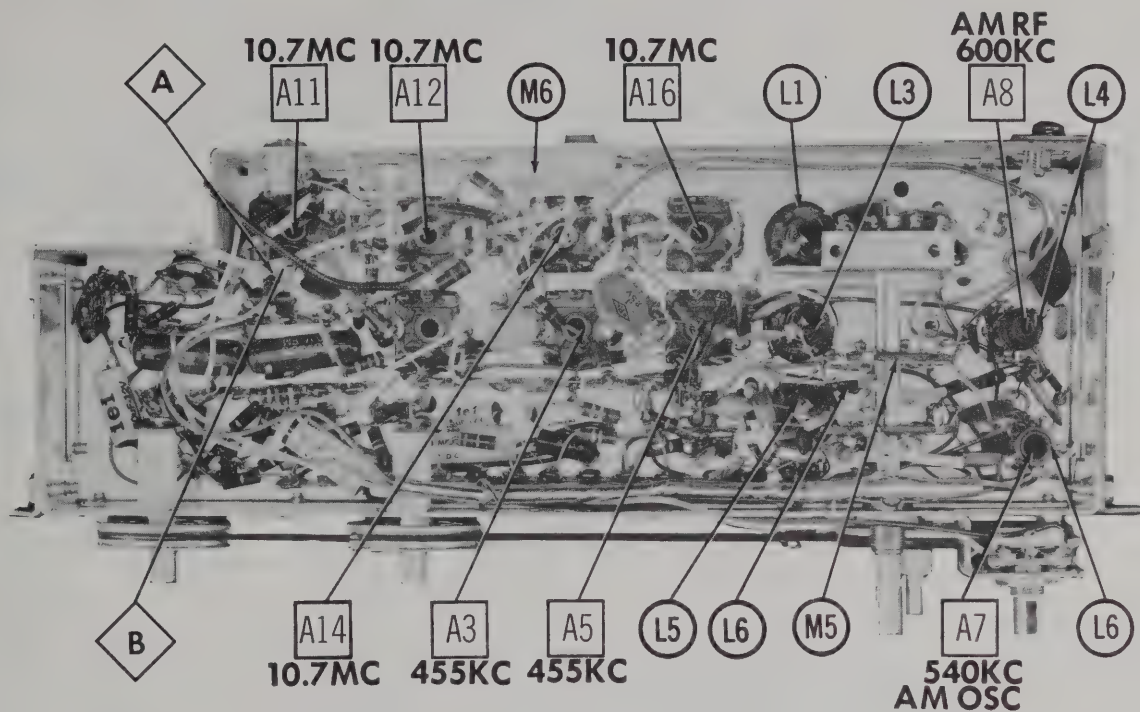
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

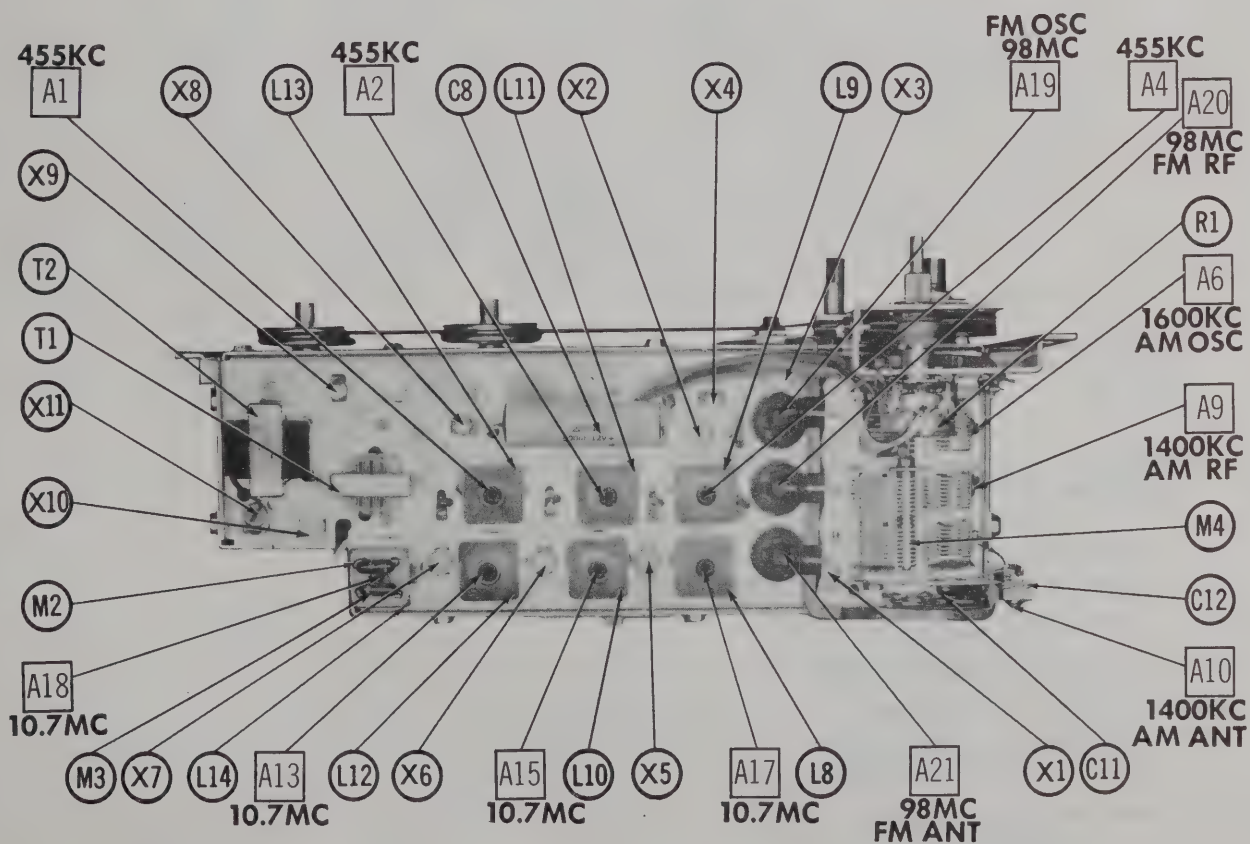
NAME	PART NO.	DESCRIPTION
Dial Scale	26-666	AM
Disc-Indicator	26-667	FM
Knob	S-49086	With Ring
Knob	S-49087	Tuning (With Ring)
Knob	S-49090	Volume (With Ring)
Knob	S-49088	Tone (With Ring)
Knob	S-49089	Function (With Ring)
Handle, Bottom	38-263	
Handle, Top	38-264	
Cabinet	S-49069	With Cover Material, Handle and Dial Scales

WIRING DATA

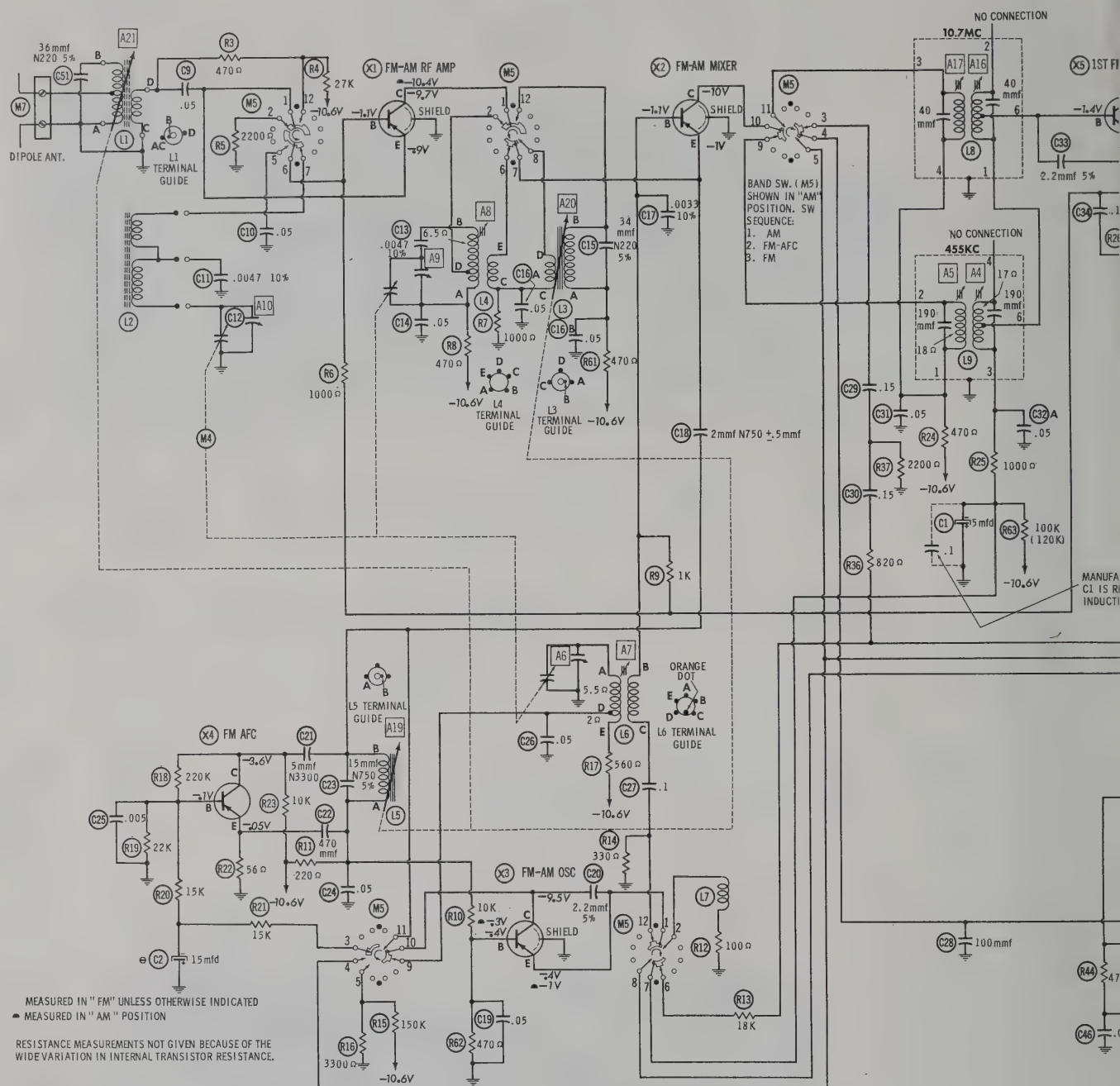
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors



CHASSIS BOTTOM VIEW-ALIGN., INDUCTOR & MISC. IDENT.



CHASSIS-TOP VIEW



MEASURED IN "FM" UNLESS OTHERWISE INDICATED
 ▲ MEASURED IN "AM" POSITION

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

⊗ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

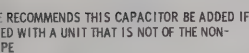
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

© Howard W. Sams & Co., Inc. 1961

ZENITH

**Royal 2000 (Ch. 11ET40Z2)**

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1 thru A5, A7, A8 and A11 thru A18.... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440

WALSCO #2526, 2543, 2544, 2545

A6.....GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089

WALSCO #2512, 2525, 2528

A9, A10.....GENERAL CEMENT #5004, 5008, 5009

WALSCO #2520

AM ALIGNMENT — SELECTOR IN AM POSITION

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% 30% AM)	(AM) 1400KC	Across voice coil.	A1, A2, A3, A4, A5	Adjust for maximum output.
2. "	1600KC	Tuning gang fully open.	"	A6	"
3. "	540KC	540KC	"	A7	"
4. "	600KC	600KC	"	A8	Adjust for maximum output. Repeat Steps 2, 3 and 4.
5. "	1400KC	1400KC Signal.	"	A9, A10	Adjust for maximum output.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM—SELECTOR IN FM POSITION

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6. Across FM antenna terminals.	10.7MC (Unmod.)	(FM) 98MC	DC probe to point \textcircled{A} . Common to chassis.	A11, A12, A13, A14, A15, A16, A17	Adjust for maximum deflection.
7. "	"	"	DC probe to point \textcircled{B} . Common to chassis.	A18	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE—SELECTOR IN FM POSITION

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
6. Across FM antenna terminals.	10.7MC (450KC Swp)	(FM) 98MC	Vert. amp. to point \textcircled{A} . Low side to chassis.	A11, A12, A13, A14, A15, A16, A17	Disconnect stabilizing capacitor C3. Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. Reconnect C3.
7. "	"	"	Vert. amp. to point \textcircled{B} . Low side to chassis.	A18	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A11 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT — SELECTOR IN FM POSITION

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
8. Across FM antenna terminals with 120 Ω in each lead.	98MC	(FM) 98MC	DC probe to point \textcircled{A} . Common to chassis.	A19, A20, A21	Adjust for maximum deflection.

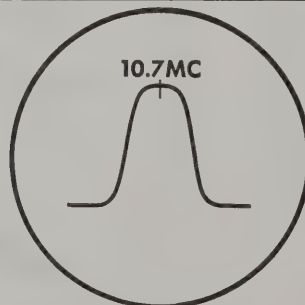


FIG. 1

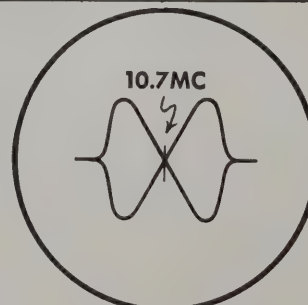
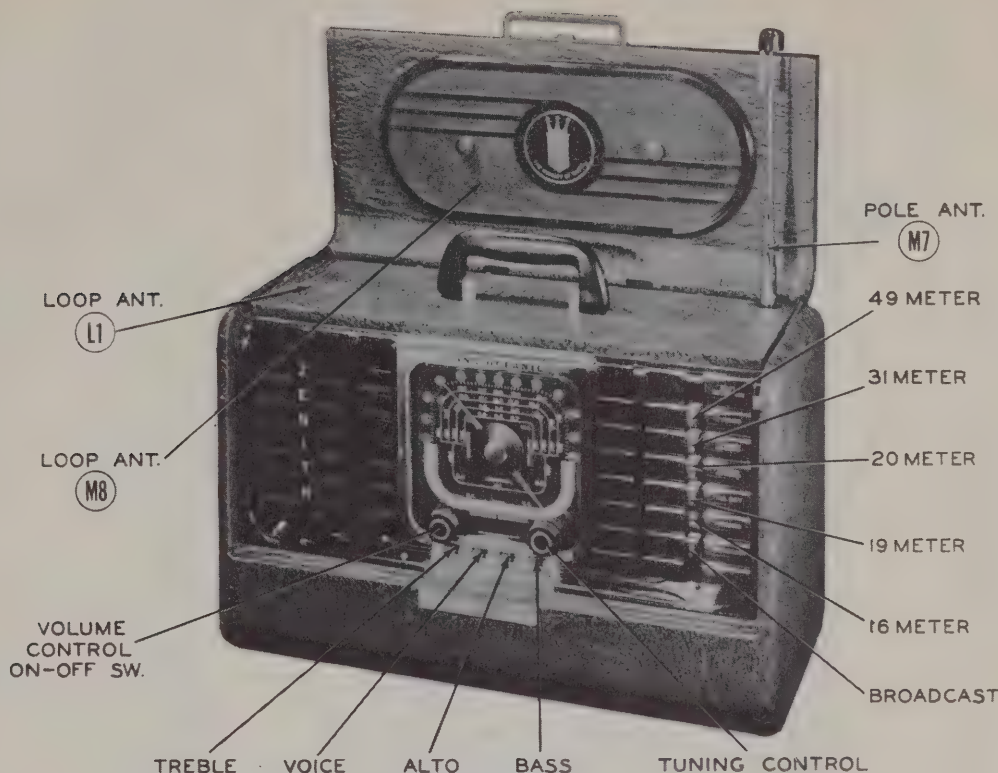


FIG. 2



ZENITH
MODEL G500 (Ch. 5G40)

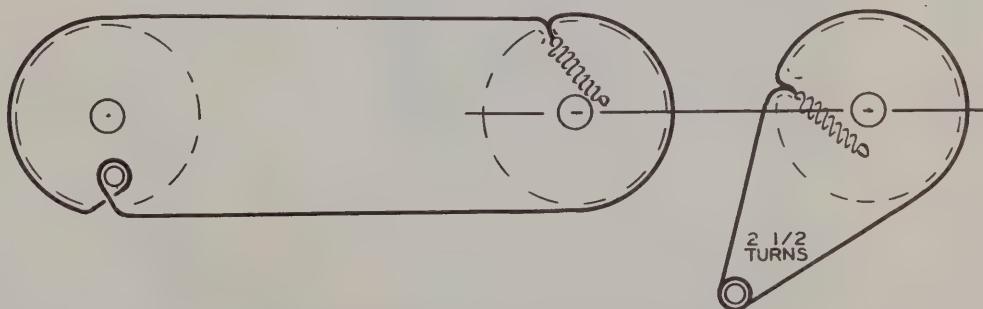


ZENITH
MODEL G500 (Ch. 5G40)

ZENITH MODEL G500

TRADE NAME	Zenith, Model G500 (Ch. 5G40)
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois
TYPE SET	Three Power Operated Portable Multi-Band Superheterodyne Receiver with Loop Antenna
TUBES(FIVE)	Types 1U4 RF Amp., 1L6 Converter, 1U4 IF Amp., 1S5 DET-AVC-AF, 3V4 Power Output
POWER SUPPLY	110-120 or 220-240 Volts AC-DC or 9 Volts "A" Supply and 90 Volts "B" Supply in Pack Form
RATING	.15 Amp. at 117 Volts AC or 55MA at 9 Volts DC and 17MA at 90 Volts DC
TUNING RANGE-BROADCAST	535-1620KC
SHORT WAVE	(#1) 6-6.2MC (#2) 9.45-9.75MC, (#3) 11.5-12.1MC, (#4) 14.9-15.5MC, (#5) 17.5-18.1MC

TUNING GANG FULLY CLOSED

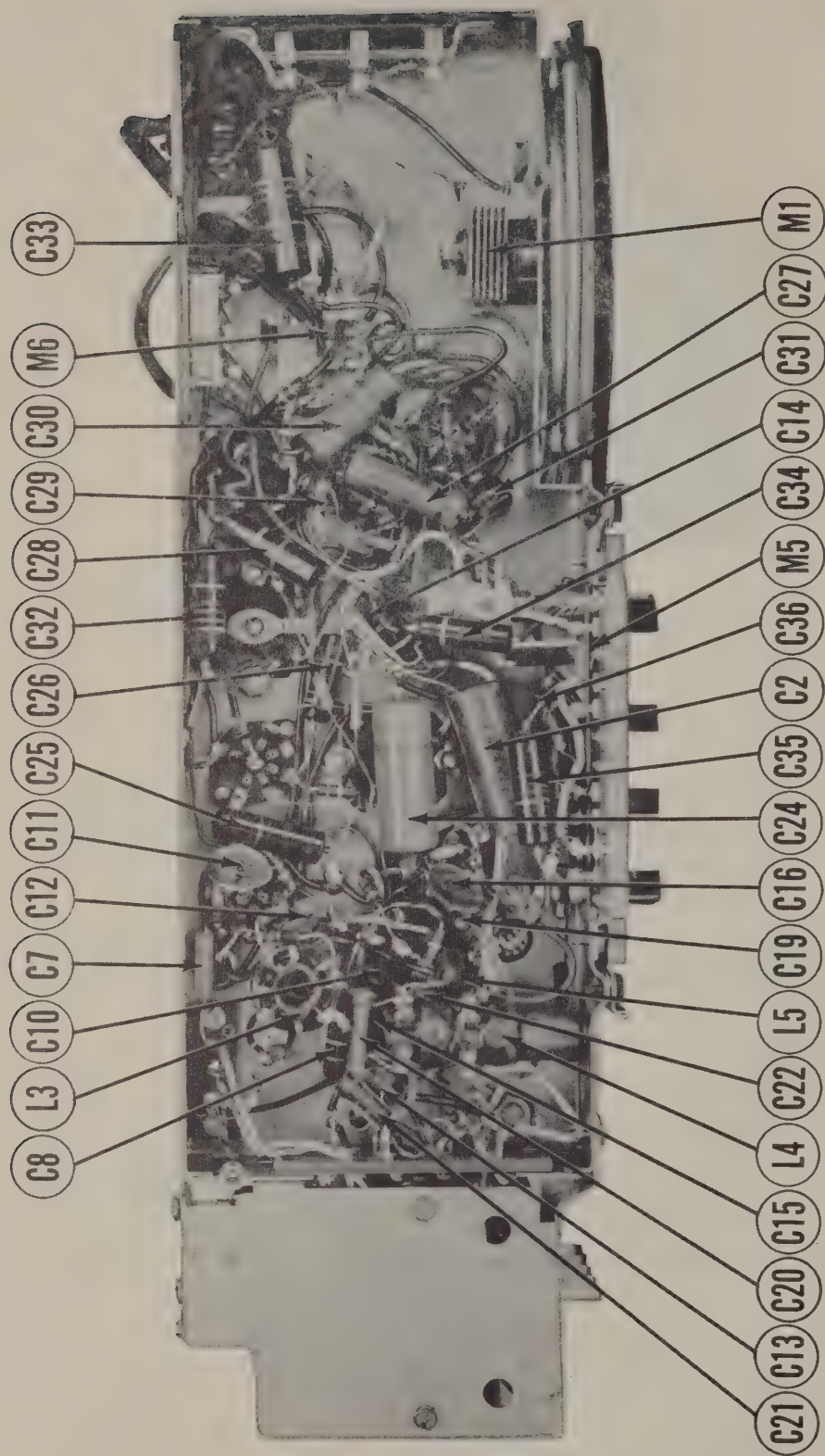


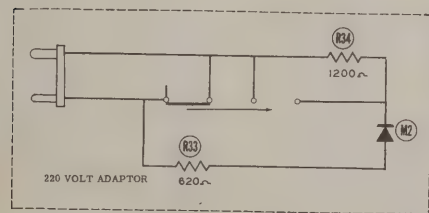
DIAL CORD DRIVE

HOWARD W. SAMS & CO., INC. • Indianapolis Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."
"Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1950 by Howard W. Sams & Co., Inc., Indianapolis 1, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America



V & R TAKEN IN AC-DC POSITION

*DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE
† Measured from output of M1.
NOTE: Power switch must be turned on to measure B+ resistance.

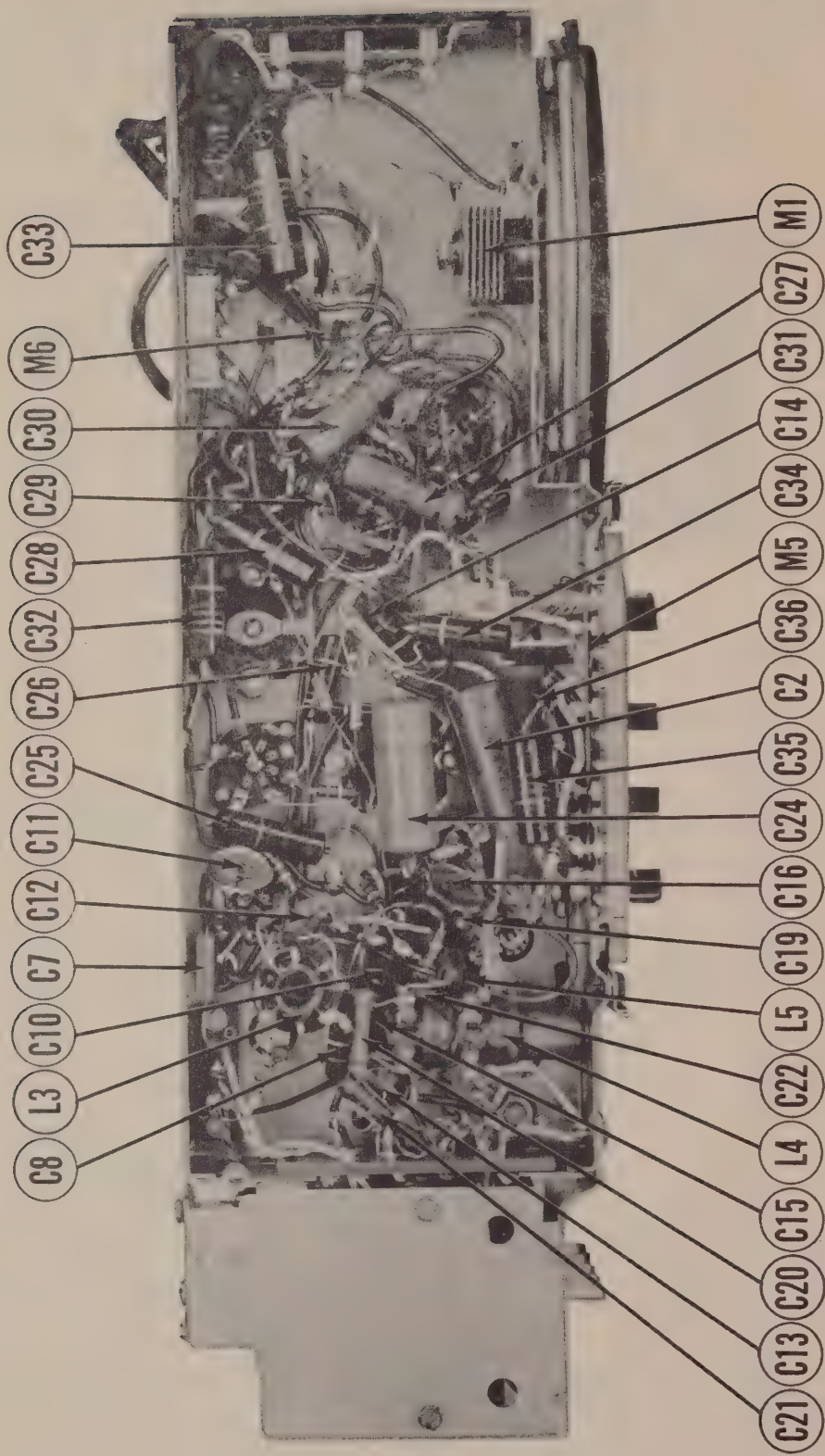
M6	Switch	85-430	AC/DC-Battery
M7	Antenna	S-15602	Whip
M8	Antenna	S-16027	Loop
M9	3 Gang Var. Cap.	22-2064	
	Dial Crystal	192-129	
	Dial Pointer	59-155	
	Dial Scale	26-398	

Note. Not used in all models.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA		
	RESIST-ANCE	WATTS	ZENITH PART No.	IRC PART No.	CLAROSTAT PART No.
1A	1 Meg.	1/2	63-237		
B	Switch		Not Req.	Q11-137 # 76-2	

Use original lever and bushing to actuate on-off indicator.



C33

M6

C30

C29

C28

C32

C26

C25

C11

C12

C7

C10

L3

C8

M1

C27

C31

C14

C34

M5

C36

C2

C35

C24

C16

C19

L5

C22

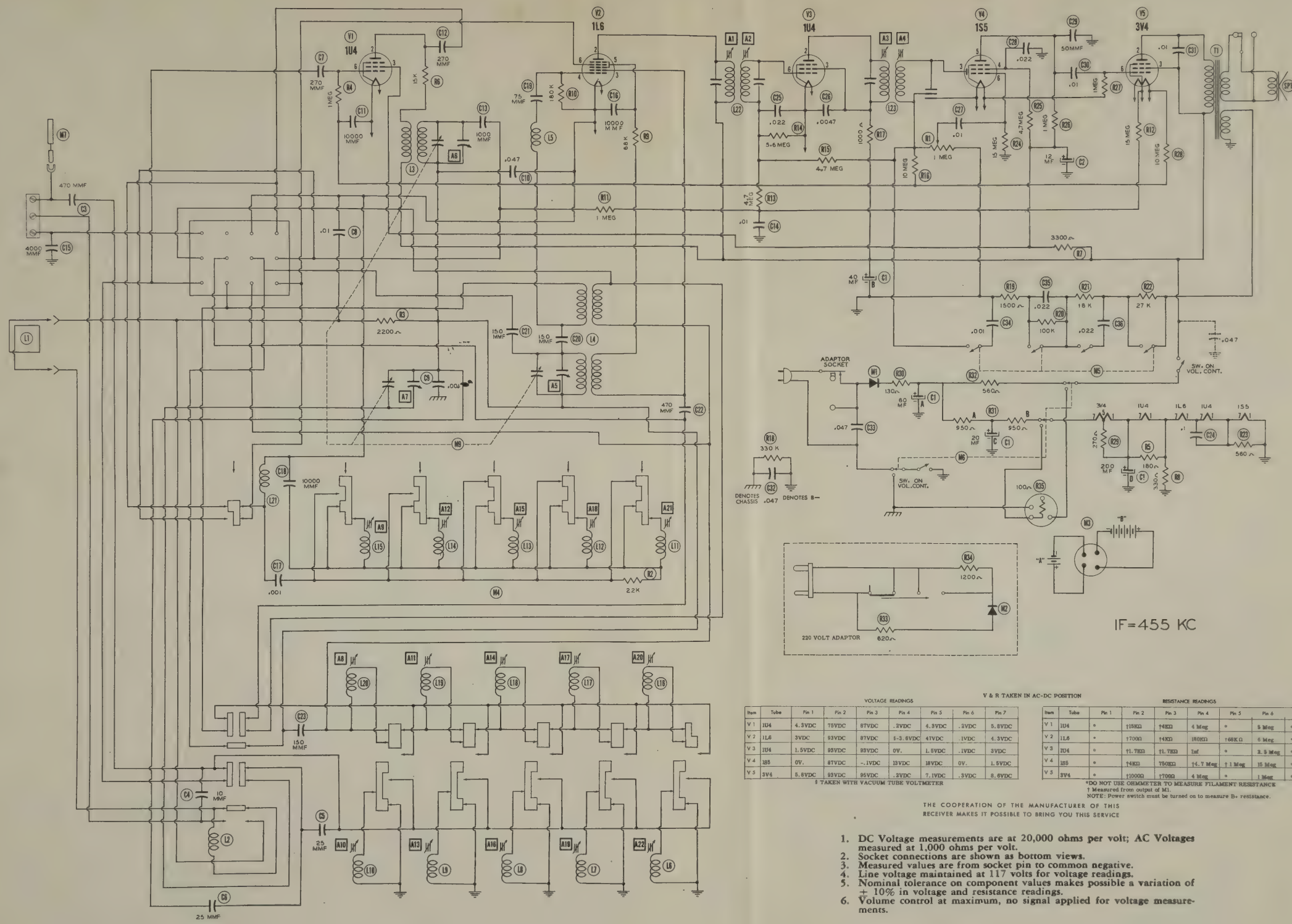
L4

C15

C20

C13

C21



VOLTAGE READINGS						
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
V 1	1U4	4.3VDC	73VDC	87VDC	.2VDC	4.3VDC
V 2	1L6	3VDC	93VDC	87VDC	1-3.6VDC	47VDC
V 3	12A6	1.5VDC	83VDC	83VDC	0V	1.5VDC
V 4	12BE	0V	87VDC	.1VDC	13VDC	18VDC
V 5	3V4	8.6VDC	93VDC	93VDC	.2VDC	7.1VDC

RESISTANCE READINGS						
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
V 1	1U4	118KΩ	74KΩ	4 Meg	5 Meg	5 Meg
V 2	1L6	1700Ω	74KΩ	180KΩ	168KΩ	6 Meg
V 3	12A6	11.7KΩ	71.7KΩ	1MΩ	2.5 Meg	2.5 Meg
V 4	12BE	74KΩ	750KΩ	74.7 Meg	1.1 Meg	15 Meg
V 5	3V4	11000Ω	1700Ω	4 Meg	1 Meg	1 Meg

- DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common negative.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	REPLACEMENT DATA			IDENTIFICATION CODES
	RATING	ZENITH PART No.	IRC PART No.	
	RESISTANCE WATTS			
R2	22KΩ	63-1842	BTS-22K	RF Coil Shunt
R3	2200Ω	63-1800	BTS-2200	Ant. Isolation
R4	1 Meg.	63-1912	BTS-1 Meg.	RF Grid
R5	15KΩ	63-1754	BW-1-180	Filament String
R6	1500Ω	63-1835	BTS-15K	RF Plate
R7	3300Ω	63-1807	BTS-3300	Decoupling
R8	330Ω	63-1764	BW-1-330	Filament String
R9	68KΩ	63-1863	BTS-68K	Osc. Anode
R10	180KΩ	63-1880	BTS-180K	Osc. Grid
R11	1 Meg.	63-1912	BTS-1 Meg.	AFC Network
R12	4.7 Meg.	63-1901	BTS-4.7 Meg.	Voltage Divider
R13	5.6 Meg.	63-1943	BTS-5.6 Meg.	AFC Network
R14	5.6 Meg.	63-1940	BTS-5.6 Meg.	Voltage Divider
R15	4.7 Meg.	63-1954	BTS-4.7 Meg.	AFC Network
R16	10 Meg.	63-1785	BTS-10 Meg.	Voltage Divider
R17	1000Ω	63-1891	BTS-1000	IF Decoupling
R18	330KΩ	63-1792	BTS-330K	Isolation
R19	1500Ω	63-1800	BTS-1500	Tone Compensation
R20	100KΩ	63-1869	BTS-100K	Tone Compensation
R21	18KΩ	63-1838	BTS-18K	Tone Compensation
R22	27KΩ	63-1845	BTS-27K	Tone Compensation
R23	560Ω	63-1775	BTS-560	Filament String
R24	15 Meg.	63-1961	BTS-15 Meg.	AF Grid
R25	4.7 Meg.	63-1940	BTS-4.7 Meg.	AF Screen
R26	1 Meg.	63-1912	BTS-1 Meg.	AF Plate
R27	10 Meg.	63-1912	BTS-10 Meg.	Output Grid
R28	10 Meg.	63-1912	BTS-10 Meg.	Voltage Divider
R29	270Ω	63-1761	BW-1-270	Filament String
R30	130Ω	63-2018	63-2018	Surge Limiter, Wire Wound
R31A	950Ω	63-1362	63-1362	Filter, Wire Wound
R32	560Ω	63-1775	BTS-560	Filter
R33	620Ω	63-2020	63-2020	Surge Limiter, Wire Wound See Note 1
R34	1200Ω	63-2021	63-2021	Surge Limiter, Wire Wound See Note 1
R35	100Ω	63-1744	BW-1-100	Series B-

Note. Used in 220V voltage adapter.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE	DC RES.	SEC.1	PRI.	ZENITH PART No.	STANCOR PART No.	MERT PART No.	CHICAGO PART No.	
T1	7.2KΩ	3.8Ω	265Ω	30 SEC. 2	206-668				

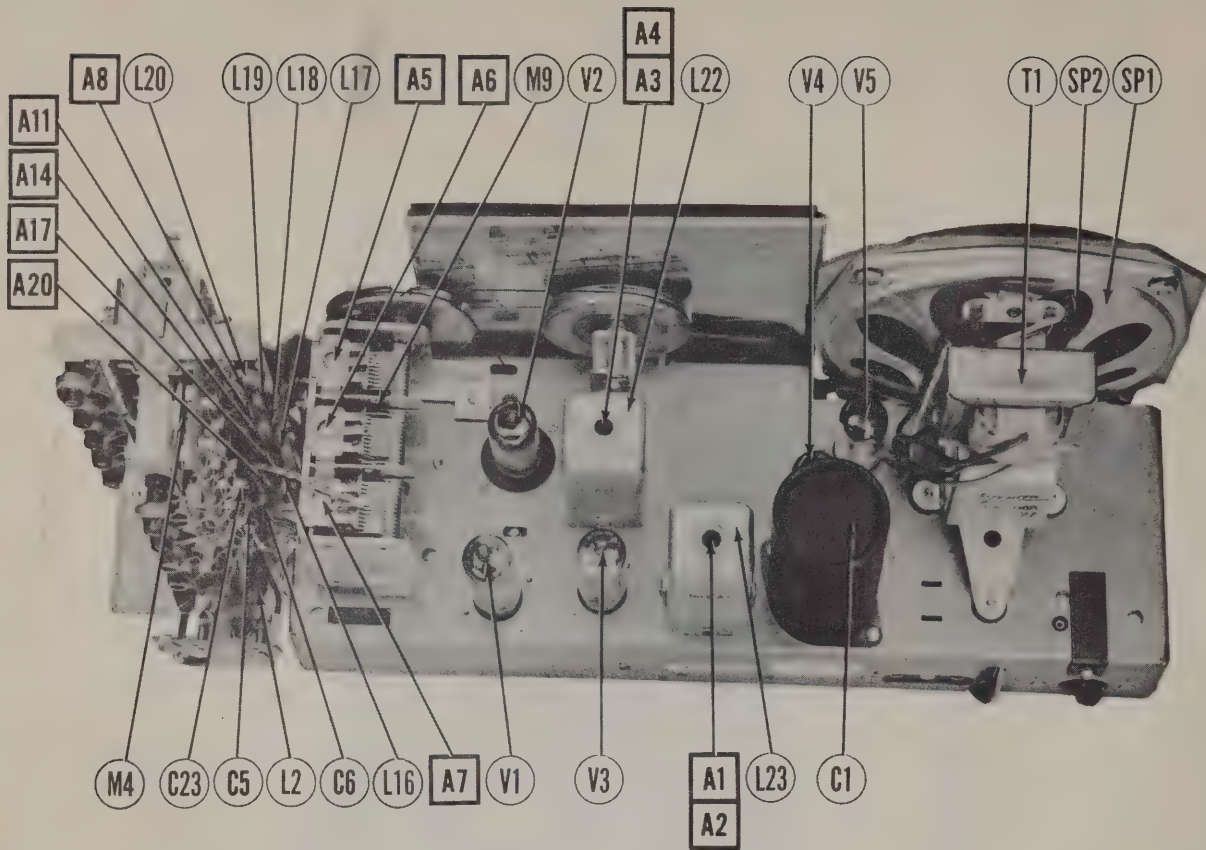
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA				INSTALLATION NOTES
	FIELD	V. C. IMP.	ZENITH PART No.	JENSEN PART No.	QUAM PART No.		
SP1	PM	3.8Ω	49-668	ST-803 *	52A1 †		* Fabricate mounting bracket. † Use universal mounting bracket provided.
SP2	CONE DIA.	9/16"	208-668	MOD. P525-V			

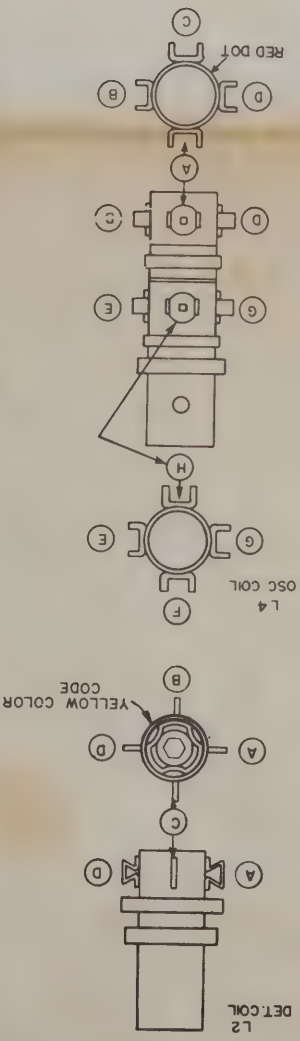
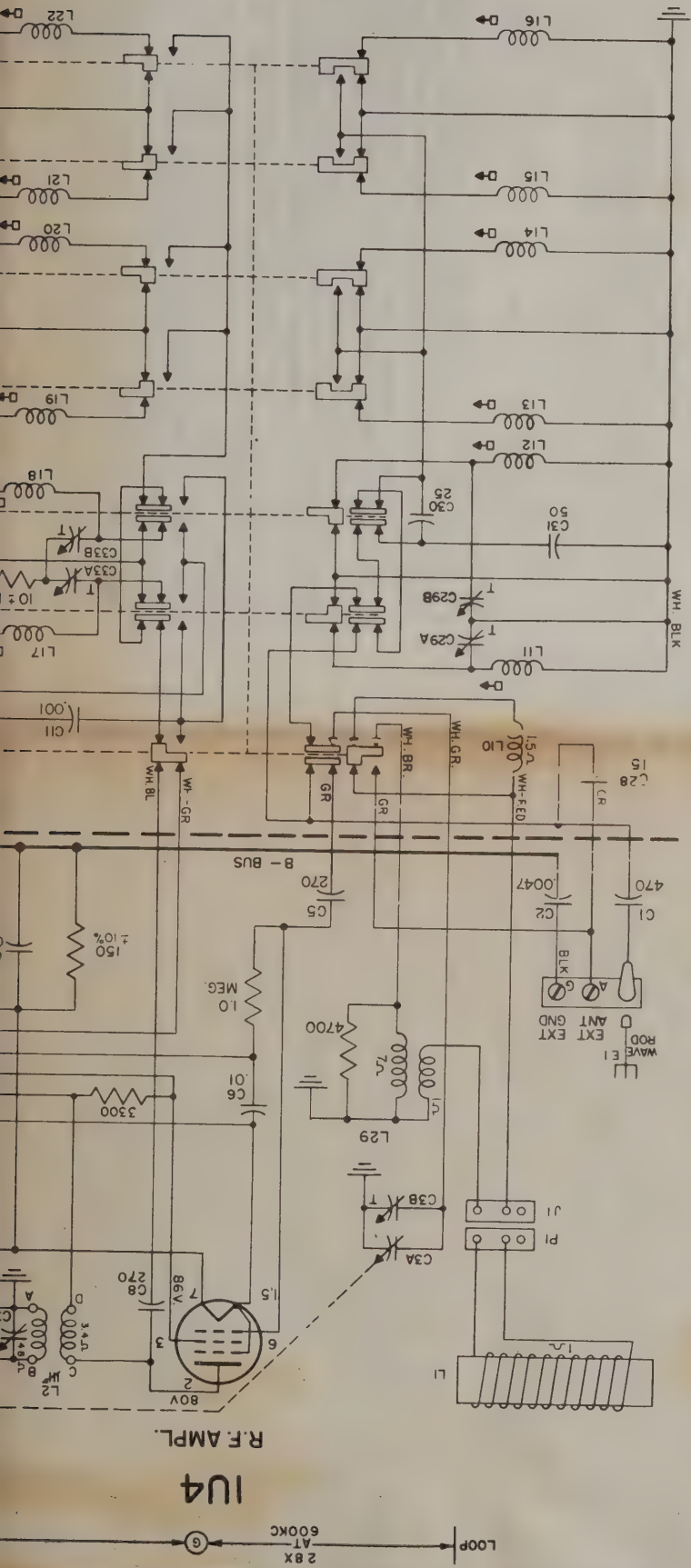
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.	
L1	Loop Ant.	.9Ω				
L2	Ant. Loading	1.5Ω		S-16047		
L3	RF Coil	6.5Ω	.5Ω	S-15887		BC

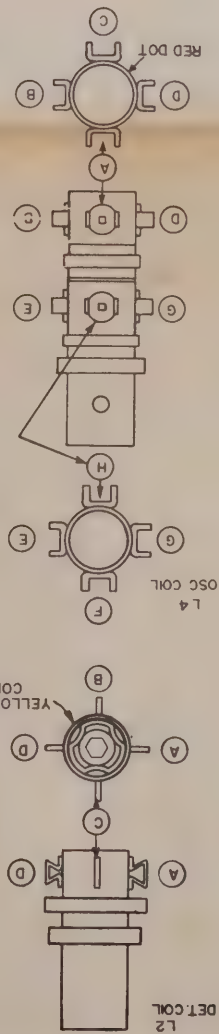
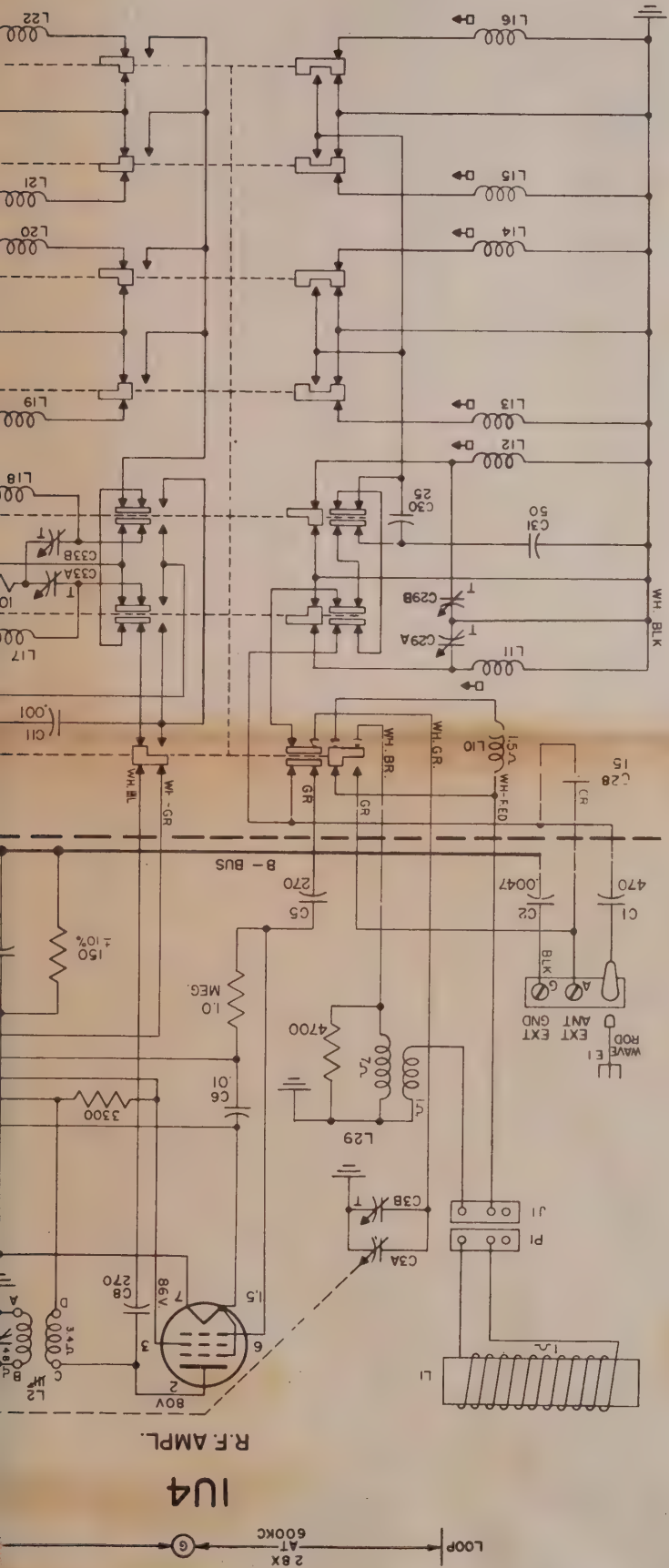
CHASSIS—TOP VIEW



MODELS T600 AND T600L CHASSIS 6T40Z AND 6T41Z



MODELS T600 AND T600L CHASSIS 6T40Z AND 6T41Z



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
R2	22KΩ		63-1842	BTS-22K	RF Coil Shunt
R3	220KΩ		63-1800	BTS-2200	Ant. Isolation
R4	1 Meg.		63-1912	BTS-1 Meg.	RF Grid
R5	150KΩ		63-1754	BW- $\frac{1}{2}$ -180	Filament String
R6	15KΩ		63-1835	BTS-15K	RF Plate
R7	330KΩ		63-1807	BTS-3300	Decoupling
R8	330Ω		63-1764	BW- $\frac{1}{2}$ -330	Filament String
R9	68KΩ		63-1863	BTS-68K	Osc. Anode
R10	180KΩ		63-1880	BTS-180K	Osc. Grid
R11	1 Meg.		63-1912	BTS-1 Meg.	AVC Network
R12	15 Meg.		63-1961	BTS-15 Meg.	Voltage Divider
R13	4.7 Meg.		63-1940	BTS-4.7 Meg.	AVC Network
R14	5.6 Meg.		63-1943	BTS-5.6 Meg.	Voltage Divider
R15	4.7 Meg.		63-1940	BTS-4.7 Meg.	AVC Network
R16	10 Meg.		63-1954	BTS-10 Meg.	Voltage Divider
R17	100KΩ		63-1785	BTS-100K	IF Decoupling
R18	330KΩ		63-1891	BTS-330K	Isolation
R19	150KΩ		63-1792	BTS-150K	Tone Compensation
R20	100KΩ		63-1869	BTS-100K	Tone Compensation
R21	18KΩ		63-1838	BTS-18K	Tone Compensation
R22	27KΩ		63-1845	BTS-27K	Tone Compensation
R23	560Ω		63-1775	BTS-560	Filament String
R24	15 Meg.		63-1961	BTS-15 Meg.	AF Grid
R25	4.7 Meg.		63-1940	BTS-4.7 Meg.	AF Screen
R26	1 Meg.		63-1912	BTS-1 Meg.	AF Plate
R27	1 Meg.		63-1912	BTS-1 Meg.	Output Grid
R28	10 Meg.		63-1954	BTS-10 Meg.	Voltage Divider
R29	270Ω		63-1761	BW- $\frac{1}{2}$ -270	Filament String
R30	130Ω		63-2018		Surge Limiter, Wire Wound
R31 A	950Ω		63-1862		Filament Dropping, Wire Wound
R31 B	950Ω		63-1775		Filter, Wire Wound
R32	500Ω		63-2020		Surge Limiter, Wire Wound See Note 1
R33	500Ω		63-2021		Surge Limiter, Wire Wound See Note 1
R34	1200Ω		63-1744		Series B-
R35	100Ω				

Note. Used in 220V voltage adapter.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING		REPLACEMENT DATA		INSTALLATION NOTES
	IMPEDANCE	DC RES.	ZENITH PART No.	STANCOR PART No.	
T1	7.2KΩ	3.8Ω	206-668	206-668	

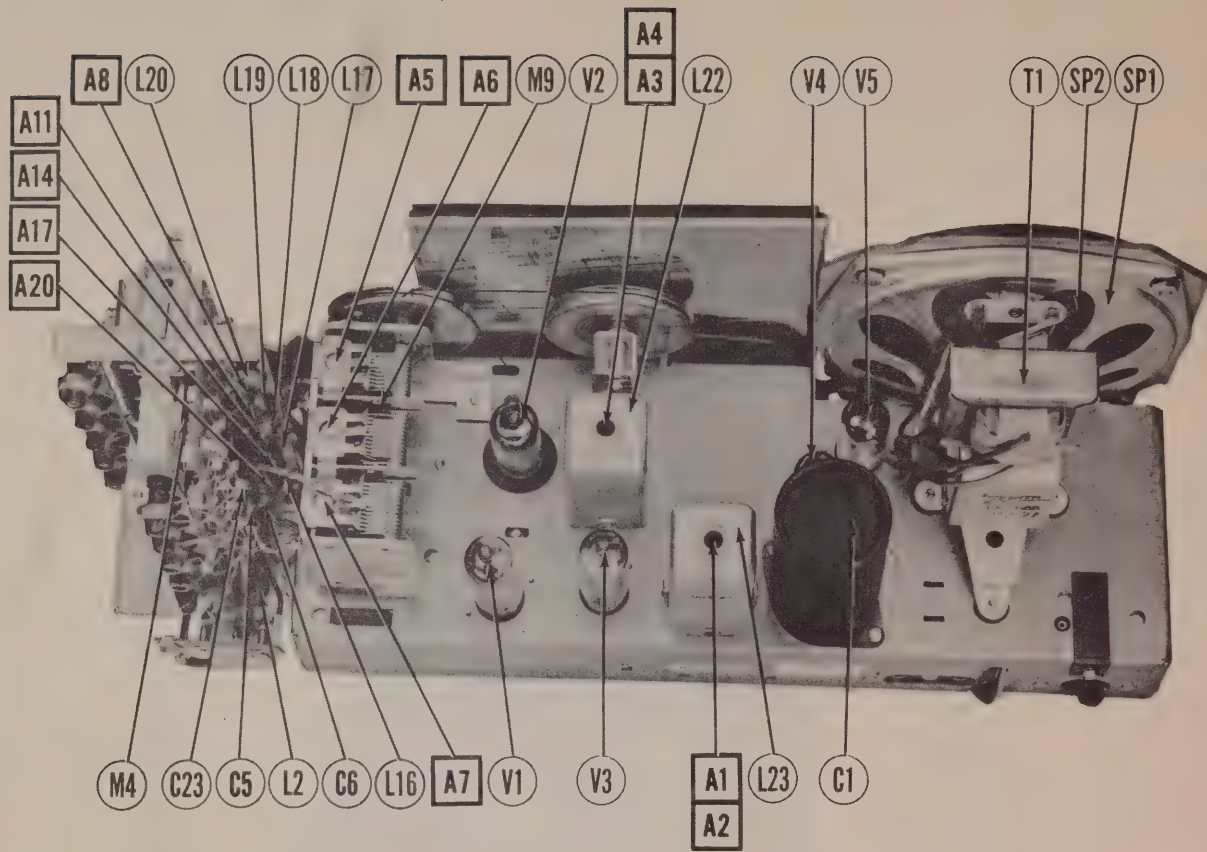
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	V. C. IMP.	ZENITH PART No.	JENSEN PART No.	
SP1	PM	3.8Ω	49-668	ST-803 *	* Fabricate mounting bracket.
SP2	CONE DIA.	V. C. DIA.	208-668	MOD. P525-V	† Use universal mounting bracket provided.

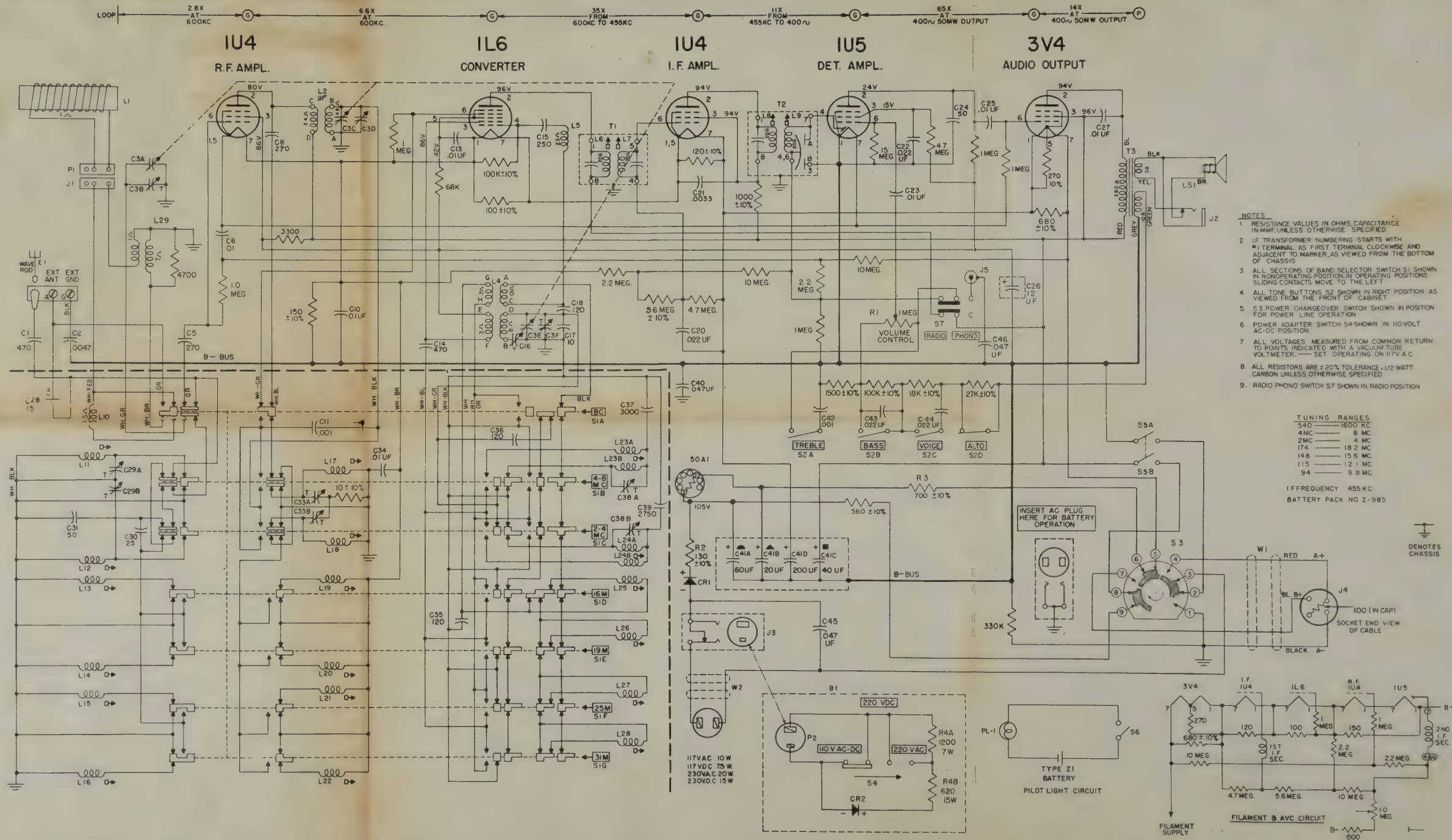
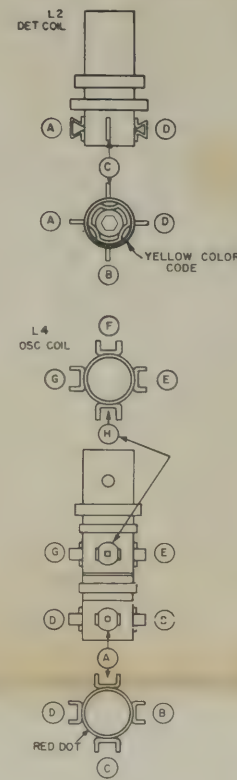
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	ZENITH PART No.	WEISSNER PART No.
L1	Loop Ant.	.9Ω			
L2	Ant. Loading	1.5Ω		8-16047	
L3	RF Coil	6.5Ω	.5Ω	8-15887	BC

CHASSIS—TOP VIEW



MODELS T600 AND T600L CHASSIS 6T40Z AND 6T41Z



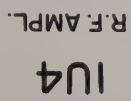
PART NO.	DIAG. NO.	DESCRIPTION
----------	-----------	-------------

[illegible]

Shoulder rivet (1 mt. ea. 61-137)
Electrolytic socket

12-2058	Inside cover hinge bracket (2 part of S-20815 or 21426)	.10
14-1633	Model T600 portable cabinet	
14-1675	Model T600L portable cabinet	
16-1113	Packing carton	
17-67	Telescoping ant. rod, ret. clamp	.08
19-329	Antenna rod	.07
	Antenna	.241U

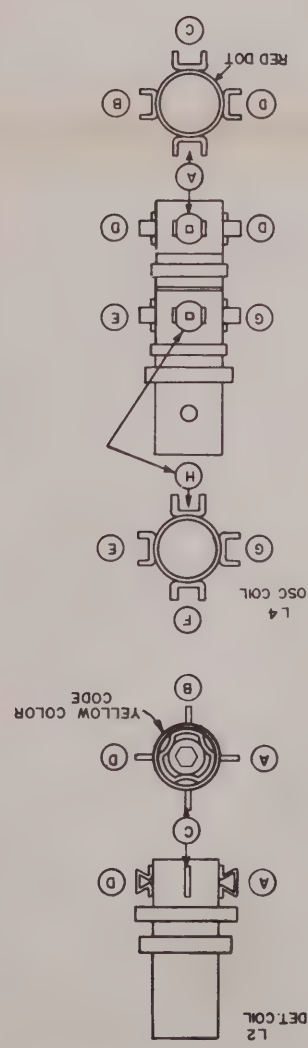
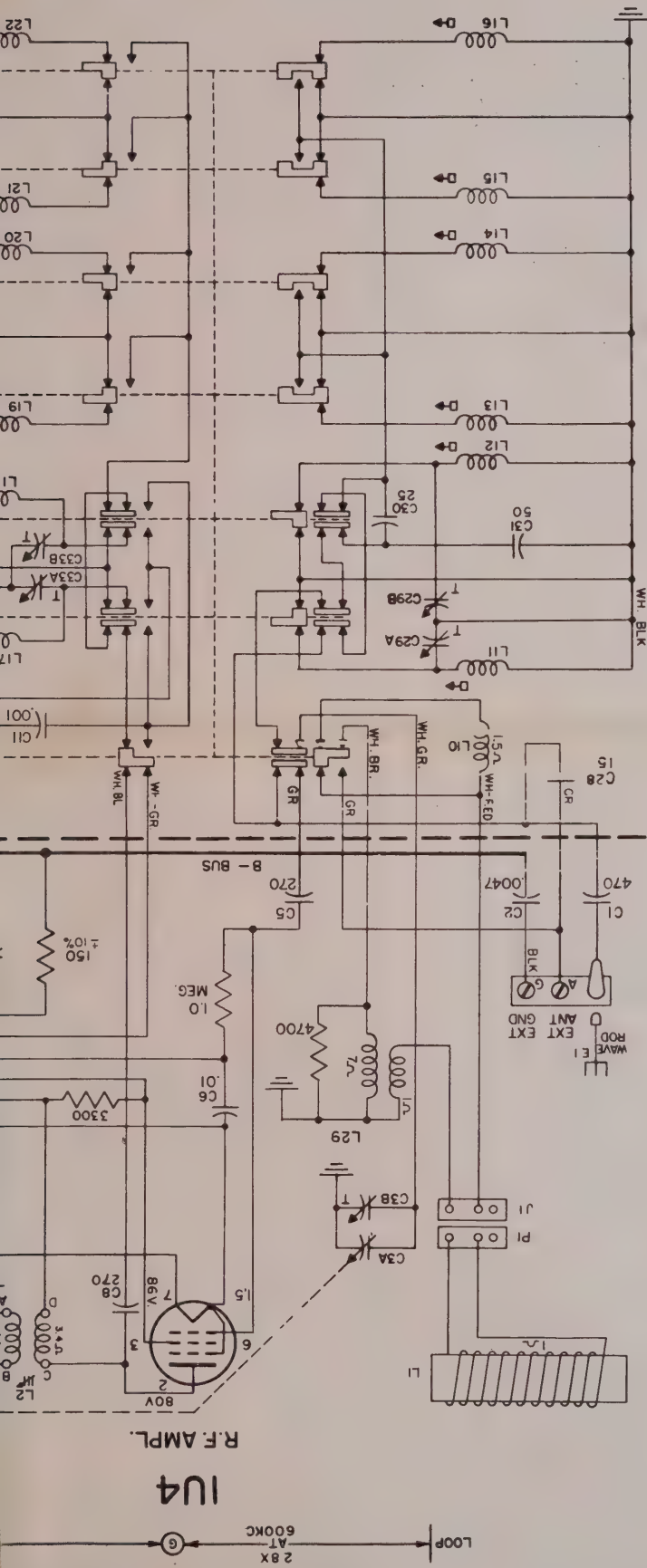
The diagram shows two probe assemblies. The top assembly is labeled L2 DET. COIL and features a central vertical rod with a rectangular block (A) at the top, which has two side flanges (D). Below this is a circular component (C) with a central hole. The bottom assembly is labeled L4 OSC. COIL and features a similar central vertical rod with a rectangular block (A) at the top, which has two side flanges (D). Below this is a circular component (C) with a central hole. A label 'RED DO' points to a small rectangular feature on the side of the L4 assembly. A label 'YELLOW CODE' points to a small rectangular feature on the side of the L2 assembly. Various other components are labeled with letters A through H.



CHASSIS PARTS LIST				PART NO.	DIAG. NO.	DESCRIPTION	PRICE	PART NO.	DIAG. NO.	DESCRIPTION	PRICE
PART NO.	DIAG. NO.	DESCRIPTION	PRICE	PART NO.	DIAG. NO.	DESCRIPTION	PRICE	PART NO.	DIAG. NO.	DESCRIPTION	PRICE
12-1873		Bracket (part of S-20821)	.05	114-39		0-32 x 1/4 x 1/4 Hex hd. self-top screw (mts. 12-2053)	.01	70-185		6 x 5/16 Rd. hd. wood screw (1 mt. en. 19-258)	.03
12-2053		Dial support bracket	.06	114-51		6-32 x 1/4 x 1/4 Hex hd. mach. screw (2 mt. 22-2520)	.01	70-202		4 x 3/8 Phils. binding hd. wood screw (used on 40-147)	.04
12-2054		Pointer shaft bracket	.02	114-116		6-32 x 1/4 x 1/4 Hex hd. mach. screw		70-214		6 x 1/4 Phils. rd. washer hd. wood screw (5 used on S-22866 or S-22893 and 1 on 19-253)	.04
12-2056		Tuning shaft bracket	.15	114-277		6-32 x 1/4 x 1/4 Hex hd. self-top screw (2 mt. 26-520)	.01	72-115		3 x 3/8 Phils. flat hd. wood screw (1 used on ea. 159-49)	.03
15-57		Cap & Insulator (part of S-15785)	.10	114-435		8 x 5/16 x 1/4 Hex hd. self-top screw (flat washer att. - 2 mt. S-20776)	.03	72-121		4 x 3/8 Phils. flat hd. wood screw (5 used on S-20815 or 21426 and 3 on 24-671 or 696)	.03
19-189		Coil mtg. clip	.02	125-17		6-32 x 7/16 x 1/4 Hex hd. mach. screw (2 mt. 26-520)	.02	78-985		Dial light socket	.20
19-249		Coil mtg. clip	.03	139-96		Rubber grommet	.03	80-976		Cover return spring (2 part of S-20815 or 21426)	.10
22-3	C4,13,23,25,34	.01 mfd. ceramic 500V (5 used)	.26	149-85		Speaker baffle (part of S-20790)	.25	83-1617		Pull tab (part of S-20809)	.06
22-4	C2	.004 mfd. ceramic 500V	.26	149-86		Iron core (12 used)	.10	83-1617		Push button felt strip	.15
22-11	C21	.0033 mfd. paper 400V	.26	149-96		Iron core (1 part of ea. S-17730, 17731, 18614 and 18615 - 2 on S-18735)	.10	83-2320		Felt strip	.07
22-17	C42	.001 mfd. paper 600V (2 used)	.26	188-148		Retaining ring (used on S-20794)	.02	83-2422		Wavemagnet ant. mtg. strip (part of S-22866)	.40
22-190	C14	.070 mmf. mica 500V (2 used)	.26	188-149		Retaining ring (used on S-20791)	.02	83-2423		Wavemagnet ant. mtg. strip (part of S-22893)	.40
22-192	C30	.25 mmf. ceramic 500V	.39	188-168		Retaining ring (used on S-20794)	.06	85-542	S6	Momentary contact sw. (S.P.-Model T600)	.40
22-1433	C29	.2750 mmf. mica 500V	.45	196-174		Speaker gasket (part of S-20790)	.25	85-550	S6	Momentary contact sw. (S.P.-Model T600L)	.45
22-1674	C24	.50 mmf. ceramic 500V	.20	212-9	CR2	Selenium rectifier (part of S-15715)	.93	93-126		Int. lockwasher (2 mt. S-15802 or 21433)	.01
22-1741	C41A,B,C,D	Electrolytic 20/150V, 40/150V, 60/150V, 200/10V	4.45	212-13	CR1	Selenium rectifier	2.25	93-132		.038 x 11/64 x 7/16 steel washer (1 used on ea. 112-919)	.01
22-1761	C31	.50 mmf. ceramic 500V	.20	100-162		Thermal Resistor		93-799		Brass washer (used with 97-441)	.03
22-1775	C40	.047 mfd. paper 400V (2 used)	.26	S-14003	L5	R.F. choke coil assem.	.20	93-1188		Shakeproof lockwasher (2 used on chassis)	.03
22-1777	C10	.1 mfd. paper 200V	.26	S-15715	B1	Battery cable and socket assem.	.55	93-1195		Brass washer (used on chassis)	.03
22-1778	C46	.047 mfd. paper 200V	.26	S-15715	B1	Voltage adapter assem. (available for this model)	4.20	97-367		Handle mtg. stud (2 part of S-20823 or 21437)	.20
22-1779	C27	.01 mfd. paper 600V	.26	S-17686		Coil support bracket assem. (part of S-20821)	.25	97-428		Wavemagnet ant. ret. stud (2 part of S-22866 or 22893)	.20
22-1953	C17	.10 mmf. ceramic 500V	.35	S-17709	L4	Osc. coil assem. (B.C.)	1.00	97-441		Wavemagnet ant. mtg. stud (part of S-22864 or 22891)	.40
22-2056	C26	Electrolytic 12/150V	1.20	S-17714	L19	RF coil assem. (16M)	.50	100-171	PL1	Pilot light bulb (78-985)	.20
22-2058	C5, 8	.270 mmf. mica 500V (2 used)	.26	S-17715	L20	RF coil assem. (19M)	.50	112-419		Mach. screw (2 part of 14-1633 or 1675)	.08
22-2071	C20,43,44	.022 mfd. paper 200V (3 used)	.26	S-17716	L21	RF coil assem. (25M)	.50	112-919		Screw (2 used on S-22865 or 22892)	.08
22-2072	C22	.022 mfd. paper 400V	.26	S-17717	L22	RF coil assem. (31M)	.50	112-920		6-20 x 3/8 Phils. binding hd. self-top screw (4 part of S-22865 or 22892)	.02
22-2126	C15	.250 mmf. mica 500V	.26	S-17718	L13	Ant. coil assem. (16M)	.50	114-197		Hex washer hd. self-top screw (2 used on chassis)	.02
22-2127	C32, 42	.001 mfd. ceramic 500V (2 used)	.26	S-17719	L14	Ant. coil assem. (18C)	.50	114-294		6-20 x 1/4 x 1/4 Hex hd. self-top screw (4 part of S-20815 or 21426)	.02
22-2218	C11	.001 mfd. ceramic 500V	.35	S-17720	L15	Ant. coil assem. (25M)	.50	114-446		6-32 x 1/4 x 1/4 Hex slotted hd. self-top screw (used on 57-1520)	.02
22-2279	C18, 35	.120 mmf. ceramic 500V (2 used)	.30	S-17721	L16	Ant. coil assem. (31M)	.50	156-42		Door latch - upper half (part of 14-1633 or 1675)	1.25
22-2280	C36	.120 mmf. ceramic 500V	.35	S-17722	L25	Osc. coil assem. (16M)	.50	156-43		Door latch - lower half (part of 14-1633 or 1675)	1.25
22-2281	C37	.3000 mmf. mica 500V	.55	S-17727	L26	Osc. coil assem. (19M)	.50	157-7		Strike fastener (2 part of 14-1633 or 1675)	.08
22-2282	C16	Single section trimmer	.70	S-17728	L27	Osc. coil assem. (25M)	.50	157-8		Strike fastener (2 part of 14-1633 or 1675)	.05
22-2283	C38A,C38B	2 section trimmer	.55	S-17729	L28	Osc. coil assem. (31M)	.50	159-49		Snap button (2 used on S-22864 or S-22891 and 2 on 14-1633 or 1675)	.01
22-2284	C33A,C33B	2 section trimmer	.55	S-17730	L23A,L23B	Osc. coil assem. (4-8M.C.)	.70	166-75		Recessed bumper (4 part of 14-1633 or 1675)	.10
22-2285	C29A,C29B	2 section trimmer	.65	S-17731	L24A,L24B	Osc. coil assem. (2-4M.C.)	.70	199-160		Ant. insulation sleeve (2 used)	.08
22-2329	C28	.15 mmf. ceramic 500V	.20	S-17806		Band sw. mtg. bracket and term. assem. (part of S-20811)	.65	202-1104		Operating guide	.75
22-2520	C3A,B,C,D,E,F	3 section variable	5.75	S-18615	L17	RF coil assem. (4-8M.C.)	.50	202-1105		Service notes	.08
22-2569	C45	.047 mfd. paper 600V	3.50	S-20776	L11	RF coil assem. (4-8M.C.)	.50	202-1106		Special booklet	.01
26-520		Dial scale (used on 6T40-Z)	3.50	S-20782		R.F. terminal strip assem.	.35	S-15635		Wavemagnet ant. suction cup assem. (2 used)	.15
26-530		Dial scale (used on 6T41-Z)	3.75	S-20783		Drive cord & yokelet assem. (gang)	.08	S-15722		Ant. knob and latch spring assem. (part of S-15802),45	.45
49-748	L51	5W PM speaker	10.00	S-20784		Drive cord & yokelet assem. (pointer)	.08	S-15802	E1	Telescopant ant. assem. (Model T600)	7.50
54-34		6-32 x 1/4 x 3/32 hex nut (2 mt. ea. 95-1148, 95-1149 and 212-13)	.01	S-20790		Speaker, baffle and gasket assem.	10.75	S-20809		Front cover hinge assem. - Left (part of 14-1633)	.75
54-139		3/8 x 32 x 9/16 pinout	.01	S-20793		Pointer, pulley and shaft assem.	.35	S-20811		Front cover hinge assem. - Right (part of 14-1633)	.75
57-1911		Trim plate (used on 85-543)	.10	S-20794		Dial mtg. bracket and rivet assem.	.55	S-20815		Cable and plug assem. (part of S-22865 or S-22892)	.40
57-1986		Scale background plate (used on 6T40-Z)	.45	S-20805		Drive shaft and pulley assem.	.60	S-20811		Wavemagnet ant. wdg. assem. (part of S-22865 or S-22892)	2.00
57-2030		Scale background plate (used on 6T41-Z)	.75	S-20821		Drive cord & yokelet assem. (idler)	.08	S-20815		Inside cover and housing assem. (Model T600)	5.40
58-182	P2	Adapter plug on S-15715	.45	S-20843	L2	Band switch bracket and coil assem.	45.00	S-21424		Front cover hinge assem. - Left (part of 14-1675)	.85
59-300		Dial pointer	.50	S-20856	L12, L18	Detector coil assem. (B.C.)	.40	S-21425		Front cover hinge assem. - Right (part of 14-1675)	.85
61-137		Idler pulley (3 part of S-20793)	.10	S-23857	L10	RF coil assem. (2-4M.C.)	.50	S-21432		Inside cover and housing assem. (Model T600L)	5.40
62-2276	R1	Volume Control	1.81	S-23858	L29	Antenna loading coil assem.	.50	S-21433		Ant. knob and latch spring assem. (part of S-21433)	8.80
62-2281	R4A,R4B	Candele (part of S-15715)	.10			Antenna coupling coil		S-22864		Telescopant ant. assem. (Model T600L)	8.80
62-2893	R2	130 ohm 3W ins. 10%	.50	Z985X		Complete battery pack		S-22865	L1	Complete wavemagnet ant. assem. (Model T600)	5.40
62-2930	R3	700 ohm 3W WW 10%	.35	12-1082		Telescopant ant. mtg. bracket	.06	S-22866		Wavemagnet ant. mtg. strip assem. (Model T600)	7.50
64-306		Shoulder rivet (1 mt. ea. 61-137)	.03	12-2058		Inside cover hinge bracket (2 part of S-20815 or 21426)	.10	S-22891		Wavemagnet ant. cover assem. (part of S-22892) (Model T600L)	
78-274		Electrolytic socket	.03	14-1633		Model T600 portable cabinet		S-22892		Complete wavemagnet ant. assem. (Model T600L)	
78-543	J4	4 contact socket (part of S-15785)	.13	14-1675		Model T600L portable cabinet		S-22893		Wavemagnet ant. mtg. strip assem. (Model T600L)	
78-802	J1	Wavemagnet ant. socket	.10	16-1113		Packing carton					
78-806		Miniature tube socket	.15	17-67		Telescopant ant. rod, ret. clamp	.07				
78-807		Miniature tube socket (4 used)	.15	S-20793		Battery ret. clip	.03				
78-844	J3	Adapter socket (220V)	.25	19-258		Retaining clip (3 used)	.03				
78-846		Miniature tube socket	.20	24-670		Inside front cover (Model T600-part of S-20815)	1.80				
78-880	J5	Connector socket - phonograph	.10	24-695		A.C. plug cover (Model T600L-part of S-21426)	1.95				
80-69		Dial cord tension spring (1 used on ea. S-20783 and S-20805)	.05	24-696		A.C. plug cover (Model T600L)	.45				
80-209		Dial cord tension spring (used on S-20784)	.05	36-110		Cabinet handle (part of 14-1675)					
83-1102		2 lug terminal strip	.05	36-111		Cabinet handle (part of 14-1633)					
83-1071		Threaded retaining strip (1 used on ea. 149-86)	.02	40-73		Cabinet back cover hinge (2 part of 14-1633 or 1675)	.25				
83-1880		Ant. terminal strip (part of S-17806)	.20	40-147		Inside cover stop hinge	.15				
83-1919		2 lug terminal strip	.05	43-233		Wavemagnet ant. housing (Model T600 - part of S-22865)	1.25				
83-2190		7 lug terminal strip	.15	43-234		Cover housing (part of S-20815)	1.65				
83-2307		4 lug terminal strip	.06	43-244		Wavemagnet ant. housing (Model T600L - part of S-22892)	1.60				
85-473	S4	3 position switch on S-15715	1.00	43-245		Cover housing (part of S-21426)	1.80				
85-495	S7	Phono-Radio switch	.40	46-912		Band switch knob (Model T600 - 7 used)	.10				
85-502	S1	Band switch (part of S-20821)	12.25	46-913		Tuning knob (Model T600)	.15				
85-503	S2	Tone Control switch	1.00	46-1242		Vol. control knob (Model T600)	.30				
85-543	S3	Power change-over switch	1.40	46-1288		Band switch knob (Model T600L - 7 used)	.10				
92-2	S5	Power change-over switch	1.00	46-1289		Tuning knob (Model T600L)	.30				
93-2	S3	Brass washer (2 mt. ea. 78-802 and 84-4)	.01	46-1290		Vol. control knob (Model T600L)	.30				
93-125		Internal lockwasher (2 mt. ea. 78-802 and 84-4)	.01	54-341		8-32 x 1/4 - 3/32 Hex nut (2 mt. S-15802 or 21433)	.02				
93-158		1/8 x .142 x .318 steel washer (used on 212-13)	.01	54-369		Cable retaining nut (2 used)	.04				
93-209		.031 x .140 x 7/16 steel washer (2 mt. 26-520)	.02	54-391		3/8 - 32 hex nut (used on chassis)	.02				
93-1073		Insulating washer	.02	56-320		Inside cover hinge pin (part of S-20815 or 21426)	.20				
94-295		Gang capacitor and speaker mtg. bushing (3 used on ea. 22-2520 and 49-748)	.04	57-1520		Adapter socket cover plate	.15				
94-742		Tuning slug insert (1 part of ea. S-17730 and S-17731)	.09	57-1725		Emblem plate (part of S-20815)	.20				
94-773		Insert (1 part ea. S-18614 and S-18615; 2 on S-18735)	.06	57-2082		Escutcheon (Model T600)	10.50				
94-812		Coil insert bushing (part of S-20844)	.05	58-157		Battery plug (used with 85-542)	.05				
95-1148	T1	1st IF transformer	1.60	58-179	P1	3 Prong plug (part of S-20809)	.15				
95-1149	T2	2nd IF transformer	1.60	69-108		6-32 x 1/4 Rd. hd. mach. screw (2 part of S-22866 or 22893)	.02				
95-1369	T3	Audio output transformer (part of 49-748)	2.50	69-292		4-40 x 1/4 Phils. rd. hd. mach. screw (2 mt. 85-542 or 550)	.03				
113-8		6-32 x 1/4 x 1/4 Hex hd. mach. screw (lockwasher att. - 11 used)	.02	70-166		6 x 1/2 Phils. rd. hd. wood screw (1 used on chassis)	.02				
113-13		6-32 x 7/16 x 1/4 Hex hd. mach. screw (lockwasher att. - 1 mt. 22-2520 and 3 mt. 49-748)	.02	70-168		4 x 1/2 Phils. rd. hd. wood screw (3 mt. 57-2082 or 2083)	.02				
113-18		6-32 x 5/16 Hex hd. mach. screw (lockwasher att. - used on 12-1873)	.02			4 x 3/4 Phils. rd. hd. wood screw (4 mt. 57-2082 or 2083)	.02				
113-19		6-32 x 9/16 x 1/4 Hex hd. mach. screw	.02								
113-56		4-40 x 1/4 Hex hd. mach. screw (lockwasher att. - 2 used)	.02								

CABINET PARTS LIST							
84-4	R4B	Therm. (gas) (1-137)	.50	72-85		72-85	
63-289	R2	130 ohm 3W Ins. 10%	.35	78-806		78-806	
63-289	R3	700 ohm 3W WW 10%	.35	78-807		78-807	
64-306		Shoulder rivet (1 mt. ea. 61-137)	.03	78-844	J3	78-844	
78-274		Electrolytic socket	.13	78-846	J5	78-846	
78-543	J1	4 contact socket (part of S-15785)	.13	78-890		78-890	
78-802		Wavemagnet ant. socket	.10	80-69		80-69	
78-806		Miniature tube socket	.15	80-209		80-209	
78-807		Miniature tube socket (4 used)	.15	83-1102		83-1102	
78-844	J3	Adapter socket (220V)	.20	83-1101		83-1101	
78-846	J5	Naval miniature tube socket	.20	83-1880		83-1880	
78-890		Connector socket - phonograph	.10	83-1919		83-1919	
80-69		Dial cord tension spring (1 used on ea. S-20783 and S-20805)	.05	83-2190		83-2190	
		Dial cord tension spring (used on S-20784)	.05	83-2307		83-2307	
		2 lug terminal strip	.05	85-473	S4	85-473	
		Threaded retaining strip (1 used on ea. 149-86)	.02	85-495	S1	85-495	
		Ant. terminal strip (part of S-17806)	.20	85-502	S1	85-502	
		2 lug terminal strip	.05	85-503	S2	85-503	
		7 lug terminal strip	.15	85-543	S3	85-543	
		4 lug terminal strip	.06	85-520	S3	85-520	
		3 position switch on S-15715	.40	93-2		93-2	
		Phono-Radio switch	.40	93-125		93-125	
		Band switch (part of S-20821)	12.25	93-158		93-158	
		Tone Control switch	1.00	94-742		94-742	
		Power change-over switch	1.00	94-773		94-773	
		Power change-over switch	1.00	94-773		94-773	
		Brass washer (2 mt. ea. 78-802 and 84-4)	.01	94-773		94-773	
		Internal lockwasher (2 mt. ea. 95-1148 and 95-1149; 1 mt. 212-13)	.01	94-812		94-812	
		1/8 x 1/42 x 3/18 steel washer (used on 212-13)	.05	95-1148	T1	95-1148	
		.031 x 1/40 x 7/16 steel washer (2 mt. 26-520)	.01	95-1149	T2	95-1149	
		Insulating washer	.02	95-1369	T3	95-1369	
		Gang capacitor and speaker mtg. bushing (3 used on ea. 22-2520 and 49-748)	.04	113-8		113-8	
		Tuning slug insert (1 part of ea. S-17730 and S-17731)	.09	113-13		113-13	
		Insert (1 part ea. S-18614 and S-18615; 2 on S-18735)	.06	113-18		113-18	
		Coil insert bushing (part of S-20844)	.05	113-56		113-56	
		1st IF transformer	1.60				
		2nd IF transformer	57-2082				
		Audio output transformer (part of 49-748)	2.50				
		6-32 x 3/4 x 1/4 Hex hd. mach. screw (lockwasher att. - 11 used)	.02				
		6-32 x 7/16 x 1/4 Hex hd. mach. screw (lockwasher att. - 1 mt. 22-2520 and 3 mt. 49-748)	.02				
		6-32 x 5/16 Hex hd. mach. screw (lockwasher att. - used on 12-1873)	.02				
		6-32 x 9/16 x 1/4 Hex hd. mach. screw	.02				
		4-40 x 1/4 Hex hd. mach. screw (lockwasher att. - 2 used)	.02				
		22-1082	.06				
		12-2058	.10				
		14-1633	1.80				
		14-1675	.15				
		16-1113	.20				
		17-67	.07				
		19-253	.08				
		19-258	.07				
		24-670	.03				
		24-671	1.80				
		24-695	.15				
		24-696	1.95				
		36-110	.45				
		36-111	.25				
		40-73	.15				
		40-147	.25				
		43-233	.15				
		43-234	1.25				
		43-244	1.65				
		43-245	1.60				
		46-912	1.80				
		46-913	.15				
		46-1242	.30				
		46-1288	.10				
		46-1289	.30				
		46-1290	.02				
		54-341	.05				
		54-369	.04				
		54-391	.20				
		56-320	.15				
		57-1520	.20				
		57-1725	.15				
		57-2082	.10				
		57-2083	.05				
		58-157	.15				
		58-179	.02				
		69-108	.03				
		69-292	.02				
		70-166	.02				
		70-168	.02				
		70-169	.02				
		Complete battery pack					
		Telescoping ant. mg. bracket	.06				
		Inside cover hinge bracket (2 part of S-20815 or 21426)	.10				
		Model T600 portable cabinet					
		Model T600L portable cabinet					
		Packing carton					
		Telescoping ant. rod, ret. clamp	.08				
		Buttery ret. clip	.07				
		Retaining clip (3 used)	.03				
		Inside front cover (Model T600-part of S-20815)	1.80				
		A.C. plug cover (Model T600)	.15				
		Inside front cover (Model T600L-part of S-21426)	1.95				
		A.C. plug cover (Model T600L)	.45				
		Cabinet handle (part of 14-1675)					
		Cabinet handle (part of 14-1633)					
		Cabinet back cover hinge (2 part of 14-1633 or 1675)	.25				
		Inside cover step hinge	.15				
		Wavemagnet ant. housing (Model T600 - part of S-22865)	1.25				
		Cover housing (part of S-20815)	1.65				
		Wavemagnet ant. housing (Model T600L - part of S-22892)	1.60				
		Cover housing (part of S-21426)	1.80				
		Band switch knob (Model T600 - 7 used)	.15				
		Tuning knob (Model T600)	.30				
		Vol. control knob (Model T600)	.10				
		Band switch knob (Model T600L - 7 used)	.30				
		Tuning knob (Model T600L)	.10				
		Vol. control knob (Model T600L)	.30				
		8-32 x 1/4 - 3/32 Hex nut (2 mt. S-15802 or 21433)	.02				
		Cable retaining nut (2 used)	.05				
		3/8 - 32 hex nut (used on chassis)	.04				
		Inside cover hinge pin (part of S-20815 or 21426)	.20				
		Adapter socket cover plate	.15				
		Emblem plate (part of S-20815)	.20				
		Euscuteon (Model T600)	10.50				
		Euscuteon (Model T600L)	10.50				
		Battery plug (used with 85-542)	.05				
		3 Prong plug (part of S-20809)	.15				
		6-32 x 1/4 Rd. hd. mach. screw (2 part of S-22866 or 22893)	.02				
		4-40 x 1/4 Phils. rd. hd. mach. screw (2 mt. 85-542 or 550)	.03				
		6 x 1/2 Phils. rd. hd. wood screw (1 used on chassis)	.02				
		4 x 1/2 Phils. rd. hd. wood screw (3 mt. 57-2082 or 2083)	.02				
		4 x 3/4 Phils. rd. hd. wood screw (4 mt. 57-2082 or 2083)	.02				

MODELS Y600 AND Y600L CHASSIS 6T40Z AND 6T41Z

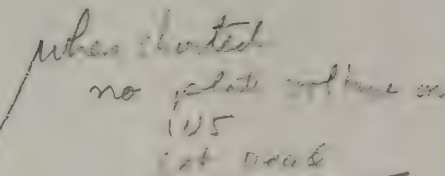


DESCRIPTION	PRICE
-------------	-------

[illegible]

and housing assem. (Model T600)	5.40
hinge assem. - Left (part of 14-1675)	.85

[illegible]



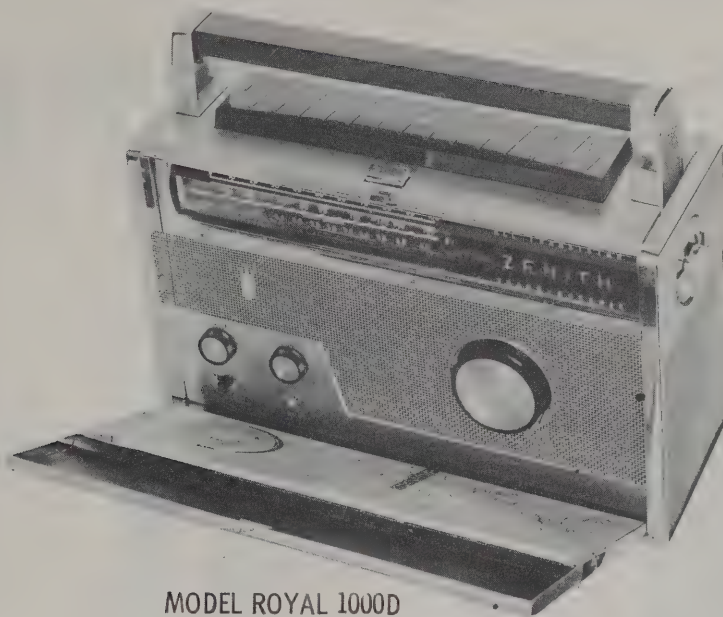
CHASSIS PARTS LIST

PART NO.	DESCRIPTION	PRICE
12-1873	Bracket (part of S-20821)	.05
12-2053	Dial support bracket	.06
12-2054	Pointer shaft bracket	.15
12-2056	Tuning shaft bracket	.02
15-57	Cap & insulator (part of S-15785)	.10
19-189	Cell mfg. clip	.02
19-249	Cell mfg. clip	.03
22-3	5C, 12, 22, 34	.26
22-4	.01 mfd. ceramic	.26
22-11	.004 mfd. ceramic	.26
22-17	.003 mfd. paper	.26
22-1380	.001 mfd. paper	.26
22-1382	.001 mfd. mica	.26
22-1433	.25 mfd. ceramic	.35
22-1674	.25 mfd. mica	.35
22-1741	50 mfd. ceramic	.20
22-1761	Electrolytic 20/150V, 40/150V, 60/150V, 200/10V	4.65
22-1775	50 mfd. ceramic	.20
22-1777	.047 mfd. paper	.26
22-1778	.01 mfd. paper	.26
22-1779	.01 mfd. paper	.26
22-1953	.10 mfd. ceramic	.35
22-2056	Electrolytic 12/150V	1.20
22-2058	270 mfd. mica	.26
22-2071	.022 mfd. paper	.26
22-2072	.022 mfd. paper	.26
22-2126	.250 mfd. ceramic	.26
22-2127	.001 mfd. paper	.26
22-2218	.001 mfd. ceramic	.35
22-2279	.120 mfd. ceramic	.30
22-2280	120 mfd. ceramic	.35
22-2281	3000 mfd. mica	.55
22-2282	Single section trimmer	.70
22-2283	C38A, C38B	.55
22-2284	C33A, C33B	.55
22-2285	2 section trimmer	.65
22-2329	2 section trimmer	.20
22-2520	15 mfd. ceramic	.50V
22-2569	3 section variable	5.75
26-530	.047 mfd. paper	3.50
26-530	Dial scale (used on 6T40-Z)	3.75
49-748	Headphone jack	10.00
54-34	5 1/2" PM speaker	.01
54-139	6-32 x 1/4 x 3/32 hex nut (2 mt. eq. 95-1148,	.01
57-1911	3/8 x 3/2 x 9/16 pinnut	.01
57-1986	Trim plate (used on 8S-543)	.10
57-2030	Scale background plate (used on 6T40-Z)	.45
58-182	Scale background plate (used on 6T41-Z)	.75
59-300	Adapter plug on S-15715	.50
61-137	Dial pointer	.10
61-137	Idle pulley (3 part of S-20793)	1.81
63-2276	Volume Control & Switch	.50
63-2276	Candlehm (part of S-15715)	.35
63-2839	130 ohm 3W res. 10%	.13
63-2900	700 ohm 3W res. 10%	.03
64-306	Shoulder rivet (1 mt. eq. 61-137)	.13
78-274	Electrolytic socket	.15
78-543	4 contact socket (part of S-15785)	.10
78-802	Wavemagnet ont. socket	.15
78-806	Miniature tube socket	.25
78-807	Miniature tube socket (4 used)	.25
78-844	Adapter socket (220V)	.20
78-846	Novel miniature tube socket	.10
78-850	Connector socket - phonograph	.10

CABINET PARTS LIST

PART NO.	DESCRIPTION	PRICE
114-39	8-32 x 1/4 x 1/4 Hex hd. self-top screw (mts. 12-2053)	.01
114-51	6-32 x 1/2 x 1/4 Hex hd. mech. screw (2mt. 22-2520)	.01
114-116	6-32 x 1 1/4 x 1/4 Hex hd. mech. screw (2mt. 26-530)	.01
114-157	6-32 x 1/4 x 1/4 Hex hd. self-top screw (2mt. 26-530)	.01
114-297	6-32 x 1/4 x 1/4 Hex hd. self-top screw (6 used)	.01
114-435	8 x 5/16 x 1/4 Hex hd. self-top screw (flat washer on - 2 mt. S-20776)	.03
114-437	6-32 x 7/16 x 1/4 Hex hd. mech. screw (2mt. 26-520)	.02
125-17	Rubber grommet	.03
139-96	Speaker bottle (part of S-20790)	.25
149-85	Iron core (part of S-20844)	.10
149-86	Iron core (12 used)	.10
149-96	Iron core (1 part of eq. S-17730, 17731, 18614 and 18615 - 2 on S-18735)	.10
188-148	Retaining ring (used on S-20794)	.02
188-149	Retaining ring (used on S-20791)	.02
188-168	Retaining ring (used on S-20794)	.06
196-174	Speaker gasket (part of S-20790)	.25
212-9	Selenium rectifier (part of S-15715)	2.25
212-13	Selenium rectifier	.25
100-162	Thermal Resistor	.20
S-14403	R.F. choke coil assm.	.55
S-15785	Battery cable and socket assm.	.25
S-15715	Voltage adapter assm. (available for this model)	4.20
S-17686	Coil support bracket assm. (part of S-20821)	.25
S-17709	Osc. coil assm. (B.C.)	1.00
S-17714	Osc. coil assm. (16M)	.50
S-17716	RF coil assm. (19M)	.50
S-17717	RF coil assm. (25M)	.50
S-17718	RF coil assm. (31M)	.50
S-17719	Ant. coil assm. (16M)	.50
S-17720	Ant. coil assm. (25M)	.50
S-17721	Ant. coil assm. (31M)	.50
S-17726	Osc. coil assm. (16M)	.50
S-17727	Osc. coil assm. (19M)	.50
S-17728	Osc. coil assm. (25M)	.50
S-17729	Osc. coil assm. (31M)	.50
S-17730	Osc. coil assm. (4-8M, C.)	.70
S-17731	Osc. coil assm. (2-4M, C.)	.70
S-17806	Bond sw. mfg. bracket and term. assm. (part of S-20821)	.65
S-18615	RF coil assm. (4-8M, C.)	.50
S-18735	RF coil assm. (4-8M, C.)	.50
S-20776	A.C. cord and reel assm.	7.50
S-20782	RF terminal strip assm. (gong)	.35
S-20783	Drive cord & eyelet assm. (gong)	.08
S-20784	Speaker, bottle and gasket assm. (printer)	.10
S-20790	Speaker, bottle and gasket assm. (printer)	.35
S-20791	Dial mfg. bracket and rivet assm.	.55
S-20793	Drive shaft and pulley assm.	.08
S-20794	Drive cord and eyelet assm. (idler)	.08
S-20801	Band switch bracket and coil assm.	45.00
S-20804	Detector coil assm. (BC)	.60
S-20856	RF coil assm. (2-4M, C.)	.50
S-20857	Antenna landing coil assm.	.50
S-20858	Antenna coupling coil	.50
2985X	Complete battery pack	.06
12-1082	Telescoping ont. mfg. bracket	.10
12-2058	Inside cover hinge bracket (2 part of S-20815 or 21426)	.10
14-1633	Model Y 600L portable cabinet	S-22865
14-1675	Model Y 600L portable cabinet	S-22866
16-1113	Packing carton	S-22891
17-67	Telescoping ont. rod, ref. clamp	.07
18-974	Reference ref. pin	.07
3 ALTO	3 ALTO	
4BASS	4BASS	

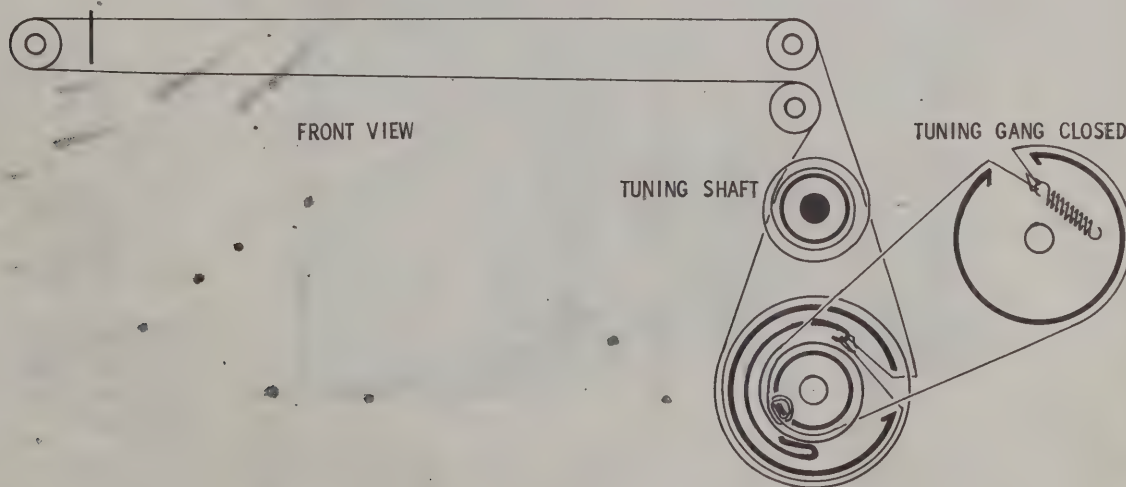
PHOTOFACT® Folder

ZENITH CHASSIS
9HT40Z2, 9HT41Z2ROYAL
1000D

MODEL ROYAL 1000D

TRADE NAME	Zenith Models Royal 1000 (Ch. 9HT40Z2), Royal 1000D (Ch. 9HT41Z2)		
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois		
TYPE SET	Battery Operated Transistorized Multi-Band Portable AM Receiver		
POWER SUPPLY	12 Volts DC (Radio) 1.5 Volts DC (Dial Light)	RATING	13MA @ 12 Volts DC (No Signal, Min. Volume) 15MA @ 12 Volts DC (Signal, Normal Volume)
TUNING RANGES	150-400KC (Model Royal 1000D only) 540-1600KC 2-4MC 4-9MC 9.4-10MC		11.4-12.2MC 14.7-15.7MC 17.1-18.5MC 20.7-22.4MC

DIAL CORD STRINGING

**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of LF200

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

DATE 6-62

SET 582

FOLDER 14

ZENITH CHASSIS
9HT40Z2, 9HT41Z2SET 582
FOLDER 14

CHASSIS PARTS LIST

PART NO.	DIAG. NO.	DESCRIPTION	PRICE
12-1873		Bracket (part of S-20821)	.05
12-2033		Dial support bracket	.06
12-2054		Pointer shaft bracket	.15
12-2056		Tuning shaft bracket	.02
15-57		Cop. & insulator (part of S-15785)	.10
19-189		Coil mtg. clip	.02
19-249		Coil mtg. clip	.03
22-3	C4,13,22,25,34	.01 mfd. ceramic 500V (3 used)	.36
22-4	C2	.004 mfd. ceramic 500V	.36
22-11	C31	.0033 mfd. paper 400V	.36
22-117	C40	.001 mfd. paper 600V (2 used)	.36
22-1390	C42	.470 mfd. mica 500V (2 used)	.33
22-1392	C30	25 mfd. ceramic 500V	.33
22-1433	C39	2750 mmf. mica 500V	.48
22-1674	C24	80 mmf. ceramic 500V	.30
22-1741	C41A,B,C,D	Electrolytic 20/150V, 40/150V, 60/150V, 200/10V	4.45
22-1761	C31	50 mmf. ceramic 500V	.30
22-1775	C40	.047 mfd. paper 400V (2 used)	.36
22-1778	C10	.1 mfd. paper 200V	.36
22-1779	C44	.047 mfd. paper 200V	.36
22-1779	C37	.01 mfd. paper 600V	.36
22-1953	C17	10 mmf. ceramic 500V	.35
22-2056	C26	Electrolytic 12/150V	1.20
22-2058	C5, 8	270 mmf. mica 500V (2 used)	.26
22-2071	C20,43,44	.022 mfd. paper 200V (3 used)	.26
22-2072	C22	.022 mfd. paper 400V	.26
22-2126	C15	250 mmf. ceramic 500V	.26
22-2127	C32, 42	.001 mfd. paper 600V (2 used)	.26
22-2218	C11	.001 mfd. ceramic 500V	.35
22-2279	C18, 35	120 mmf. ceramic 500V (2 used)	.30
22-2280	C36	120 mmf. ceramic 500V	.35
22-2281	C37	3000qmf. mica 500V	.55
22-2282	C16	Single section trimmer	.70
22-2283	C38A,C38B	2 section trimmer	.55
22-2284	C33A,C33B	2 section trimmer	.55
22-2285	C29A,C29B	2 section trimmer	.65
22-2329	C28	15 mmf. ceramic 500V	.20
22-2520	C3A,B,C,D,E,F	3 section variable	5.75
22-2569	C45	.047 mfd. paper 600V	3.50
26-520		Dial scale (used on 6T40-Z)	3.75
26-530		Dial scale (used on 6T41-Z)	7.5
44-29	J2	Headphone jack	10.00
49-748	L51	5K ¹¹ PM speaker	.01
54-34		6-32 x 1/4 x 3/32 hex nut (2 mt. ea. 95-1148, 95-1149 and 212-13)	.01
54-139		3/8 x 32 x 9/16 pinnut	.01
57-1911		Trim plate (used on 85-543)	.01
57-1986		Scale background plate (used on 6T40-Z)	.45
57-2030		Scale background plate (used on 6T41-Z)	.75
58-182	P2	Adapter plug on S-15715	.50
59-300		Dial pointer	.10
61-137		Idler pulley (3 part of S-20793)	1.81
63-2276	R1	Volume Control & Switch	.30
63-2295	R4A,R4B	Candohm (part of S-15715)	.35
63-2859	R2	130 ohm 3W ins. 10%	.03
63-2950	R3	700 ohm 3W 10%	.03
64-305		Shoulder rivet (1 mt. ea. 61-137)	.03
78-274		Electrolytic socket	.13
78-543	J4	4 contact socket (part of S-15785)	.10
78-802	J1	Wavemagnet ant. socket	.15
78-806		Miniature tube socket	.25
78-807		Miniature tube socket (4 used)	.20
78-844	J3	Adapter socket (220V)	.10
78-846		Novel miniature tube socket	.10
78-890	J5	Connector socket - phonograph	.05
80-69		Dial cord tension spring (1 used on ea. S-20783 and S-20805)	.05
80-209		Dial cord tension spring (used on S-20784)	.05
83-1102		2 lug terminal strip	.05
83-1071		Threaded retaining strip (1 used on ea. 149-86)	.02
83-1880		Ant. terminal strip (part of S-17806)	.20
83-1919		2 lug terminal strip	.15
83-2190		7 lug terminal strip	.06
83-2307		4 lug terminal strip	.40
85-473	S4	3 position switch on S-15715	12.25
85-495	S7	Phono-Radio switch	1.00
85-502	S1	Band switch (part of S-20821)	1.40
85-503	S2	Tone Control switch	1.00
85-543	S3	Power change-over switch	.01
or 85-520	S3	Brass washer (2 mt. ea. 78-802 and 84-4)	.01
93-2		Internal lockwasher (2 mt. ea. 95-1148 and 95-1149; 1 mt. 212-13)	.01
93-125		1/8 x .142 x .318 steel washer (used on 212-13)	.02
93-158		.031 x .140 x 7/16 steel washer (2 mt. 26-520)	.05
93-209		Insulating washer	.02
94-1073		Gang capacitor and speaker mtg. bushing (3 used on ea. 22-2520 and 49-743)	.04
94-295		Tuning slug insert (1 part of ea. S-17730 and S-17731)	.09
94-742		Insert (1 part ea. S-18614 and S-18615; 2 on S-18735)	.06
94-773		Coil insert bushing (part of S-20844)	.05
94-812		1st I.F. transformer	1.60
95-1148	T1	2nd I.F. transformer	1.60
95-1149	T2	Audio output transformer (part of 49-748)	2.50
95-1369	T3	6-32 x 7/16 x 1/4 Hex hd. mach. screw (lockwasher att. - 11 used)	.02
113-8		6-32 x 7/16 x 1/4 Hex hd. mach. screw (lockwasher att. - 1 mt. 22-2520 and 3 mt. 49-748)	.02
113-13		6-32 x 5/16 Hex hd. mach. screw (lockwasher att. - used on 12-1873)	.02
113-18		6-32 x 9/16 x 1/4 Hex hd. mach. screw	.02
113-56		4-40 x 1/4 Hex hd. mach. screw (lockwasher att. - 2 used)	.02

PART NO.	DIAG. NO.	DESCRIPTION	PRICE
114-39		6-32 x 1/4 x 1/4 Hex hd. self-top screw (mts. 12-2053)	.01
114-51		6-32 x 1/2 x 1/4 Hex hd. mach. screw (2 mt. 22-2520)	.01
114-116		6-32 x 1/2 x 1/4 Hex hd. mach. screw	.01
114-157		6-32 x 1/2 x 1/4 Hex hd. self-top screw (2 mt. 26-520)	.01
114-275		6-32 x 1/2 x 1/4 Hex hd. self-top screw (5 used)	.01
114-435		8 x 5/16 x 1/4 Hex hd. self-top screw (flat washer att. - 2 mt. S-20776)	.03
114-437		6-32 x 7/16 x 1/4 Hex hd. mach. screw (2 mt. 26-520)	.02
125-17		Rubber grommet	.25
139-96		Speaker baffle (part of S-20790)	.10
149-85		Iron core (part of S-20844)	.10
149-86		Iron core (12 used)	.10
149-96		Iron core (1 part of ea. S-17730, 17731, 18614 and 18615 - 2 on S-18735)	.10
188-148		Retaining ring (used on S-20794)	.02
188-149		Retaining ring (used on S-20791)	.02
188-168		Retaining ring (used on S-20794)	.04
196-174		Speaker gasket (part of S-20790)	.25
212-9	CR2	Selenium rectifier (part of S-15715)	2.25
212-13	CR1	Selenium rectifier	.20
100-162	L5	R.F. choke coil assem.	.55
S-14003	L5	Battery cable and socket assem.	.55
S-15785	W1	Voltage adapter assem. (available for this model)	4.20
S-15715	B1	Coil support bracket assem. (part of S-20821)	.25
S-17686	L4	Osc. coil assem. (B.C.)	1.00
S-17714	L19	RF coil assem. (16M)	.50
S-17715	L20	RF coil assem. (19M)	.50
S-17716	L21	RF coil assem. (25M)	.50
S-17717	L22	RF coil assem. (31M)	.50
S-17718	L13	Ant. coil assem. (16M)	.50
S-17719	L14	Ant. coil assem. (19M)	.50
S-17720	L15	Ant. coil assem. (25M)	.50
S-17721	L16	Ant. coil assem. (31M)	.50
S-17726	L23	Osc. coil assem. (16M)	.50
S-17727	L26	Osc. coil assem. (19M)	.50
S-17728	L27	Osc. coil assem. (25M)	.50
S-17729	L28	Osc. coil assem. (31M)	.50
S-17730	L23A,L23B	Osc. coil assem. (4-8M.C.)	.70
S-17731	L24A,L24B	Osc. coil assem. (2-4M.C.)	.70
S-18615	L17	Band sw. mtg. bracket and term. assem. (part of S-20821)	.65
S-18735	L11	RF coil assem. (4-8M.C.)	.50
S-20776		RF coil assem. (4-8M.C.)	.50
S-20782		A.C. cord and reel assem.	7.50
S-20783		RF terminal strip assem.	.35
S-20784		Drive cord & eyelet assem. (gang)	.08
S-20790		Drive cord & eyelet assem. (pointer)	.10
S-20791		Speaker, baffle and gasket assem.	10.75
S-20793		Pointer, pulley and shaft assem.	.35
S-20794		Dial mtg. bracket and rivet assem.	.55
S-20794		Drive shaft and pulley assem.	.60
S-20805		Drive cord and eyelet assem. (idler)	.08
S-20821		Band switch bracket and coil assem.	45.00
S-20844	L2	Detector coil assem. (B.C.)	.60
S-23856	L12, L18	RF coil assem. (2-4M.C.)	.50
S-23857	L10	Antenna loading coil assem.	.50
S-23858	L29	Antenna coupling coil	.50

CABINET PARTS LIST

PART NO.	DIAG. NO.	DESCRIPTION	PRICE
S-20815		Complete battery pack	.06
S-21424		Telescoping ant. mtg. bracket	.06
S-21425		Inside cover hinge bracket (2 part of S-20815 or 21426)	.10
S-21433		Model Y600 portable cabinet	.10
S-21435		Model Y600L portable cabinet	.10
S-21436		Packing carton	.08
S-21437		Telescoping ant. rod, ret. clamp	.07
S-21438		Battery ret. clip	.03
S-21439		Retaining clip (3 used)	.10
S-21440		A.C. plug cover (Model Y600-part of S-20815)	1.80
S-21441		A.C. plug cover (Model Y600)	.15
S-21442		Inside front cover (Model Y600L-part of S-21426)	1.95
S-21443		A.C. plug cover (Model Y600L)	.45
S-21444		Cabinet handle (part of 14-1675)	.10
S-21445		Cabinet handle (part of 14-1633)	.10
S-21446		Cabinet back cover hinge (2 part of 14-1633 or 1675)	.25
S-21447		Inside cover stop hinge	.15
S-21448		Wavemagnet ant. housing (Model Y600 - part of S-22865)	1.25
S-21449		Cover housing (part of S-20815)	1.65
S-21450		Wavemagnet ant. housing (Model Y600L - part of S-22892)	1.60
S-21451		Cover housing (part of S-21426)	1.80
S-21452		Band switch knob (Model Y600 - 7 used)	.10
S-21453		Tuning knob (Model Y600)	.30
S-21454		Band switch knob (Model Y600L - 7 used)	.10
S-21455		Tuning knob (Model Y600L)	.30
S-21456		Vol. control knob (Model Y600)	.30
S-21457		6-32 x 1/4 - 3/32 Hex nut (2 mt. S-15802 or 21433)	.02
S-21458		Cable retaining nut (2 used)	.05
S-21459		3/8 - 32 hex nut (used on chassis)	.04
S-21460		Inside cover hinge pin (part of S-20815 or 21426)	.20
S-21461		Adapter socket cover plate	.15
S-21462		Emblem plate (part of S-20815)	.20
S-21463		Escutcheon (Model Y600)	10.50
S-21464		Escutcheon (Model Y600L)	10.50
S-21465		Battery plug (used with 85-542)	.05
S-21466		3 Prong plug (part of S-20809)	.15
S-21467		6-32 x 1/4 Rd. hd. mach. screw (2 part of S-22866 or 22893)	.02
S-21468		4-40 x 1/4 Phila. rd. hd. mach. screw (2 mt. 85-542 or 550)	.02
S-21469		6 x 1/2 Phila. rd. hd. wood screw (1 used on chassis)	.02
S-21470		4 x 1/2 Phila. rd. hd. wood screw (3 mt. 57-2082 or 2083)	.02
S-21471		4 x 1/2 Phila. rd. hd. wood screw (4 mt. 57-2082 or 2083)	.02

TO THE SERVICE MAN:

Chassis 6T40Z features a high gain tuned RF stage ahead of a conventional superheterodyne circuit with band spread tuning on the 31, 25, 19 and 16 meter bands. There are two continuous coverage bands, one covering 2-4 megacycles and one covering 4-8 megacycles.

If removal of the chassis from the cabinet ever becomes necessary this should be done with care.

The alignment of chassis 6T40Z is conventional. However, care must be exercised when making adjustments, and the alignment procedure must be followed exactly. Set the chassis over a metal plate approximately the same distance the battery pack is from the bottom of the chassis when it is in the cabinet. This procedure will introduce the approximate amount of metal in the field of the RF and oscillator coils as when the chassis is in the cabinet. A signal generator of reasonable accuracy and good attenuation must be used. An output meter (AC) of the copper oxide rectifier type with a range of 1 to 30 volts in several steps is necessary to get accurate output readings. Alignment wrenches should be of the non-metallic type, especially when making adjustments of the higher frequencies.

When reinstalling the chassis in the cabinet be careful not to disturb the cabling between the short wave coil assembly and chassis. Tune in a weak broadcast signal near 1400 Kc. and touch up trimmer C3B. This will insure maximum performance after alignment.

The I.F. transformers incorporated in this receiver are of the new permeability tuned type. The advantage of an I.F. transformer of this type is its extreme stability under various humidity and temperature conditions. The upper coil is the secondary and the lower the primary. When adjusting these I.F. transformers the tuning wrench 68-19 can be inserted into the top slug, rotated until maximum output is obtained and then dropped down to the lower slug and the same operation repeated. The tuning wrench is so designed that tuning one slug does not affect the adjustment of the other.

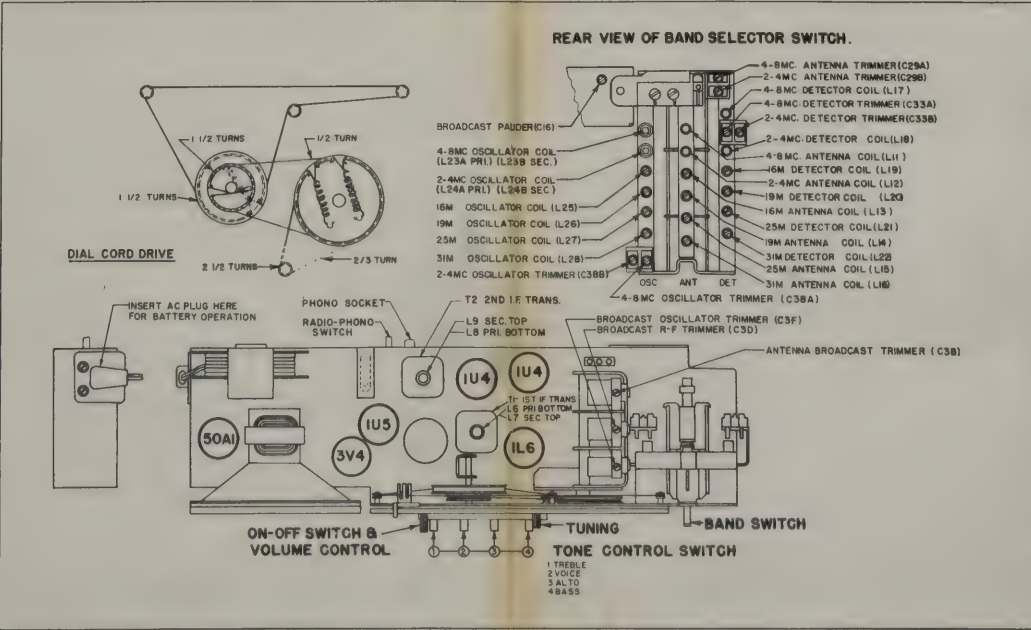
Thermal Regulator Tube 50A1 is an automatic rheostat designed to keep the current in a circuit at a definite value. Should the supply voltage change, either upward or downward, the Thermal Regulator will automatically increase or decrease its resistance to compensate for this change and keep the current thru the controlled circuit at a constant value.

As used in the Y600, the controlled circuit consists of the filament of the five vacuum tubes connected in series. A constant current thru these filaments is equivalent to a constant voltage applied across them.

The Thermal Regulator tube is capable of performing its function because of its peculiar electric thermal characteristics. Basically the tube consists of a fine iron wire filament hermetically sealed in a hydrogen atmosphere. By balancing the temperature resistance curve of the wire against the thermal conductivity curve of the gas, it is possible to make a unit that automatically changes its resistance to keep a constant current flowing over a large range of voltage variation.

By keeping the filament current of the vacuum tubes constant at 50 milliamperes we extend the line voltage range over which the set will operate from 90 to 130 volts and increase tube life by an indefinite amount.

Tube, Trimmer Location and Dial Cable Drawing



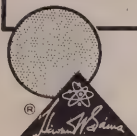
ALIGNMENT PROCEDURE

OPER.	CONNECT OSCILLATOR TO DUMMY ANTENNA	INPUT SIGNAL FREQ.	BAND	SET DIAL AT	TRIMMERS	PURPOSE
1	Positive lead of signal generator to converter grid through a .1 Mfd. condenser & negative lead to negative filament of 1L6 tube.	455 Kc	BC	600 Kc	L 6,7,8,9	Align I.F.
2	3 feet of wire approximately 1 foot from extended wave rod.	1600 Kc	BC	1600 Kc	C3F	Set oscillator to scale
3	Loosely to broadcast wavemagnet	1400 Kc	BC	1400 Kc	C3D	Alignment of BC Det.
4		1400 Kc	BC	1400 Kc	C3B	Alignment of BC ant.
5*		600 Kc	BC	600 Kc	Rock C16	Alignm't of BC at 600 Kc
6		7.8 Mc	4-8 Mc	7.8 Mc	C38A,C33A,C29A	
7*		4.2 Mc	4-8 Mc	4.2 Mc	Rock L23B	
8		REPEAT OPERATIONS 6 & 7				
9		3.9 Mc	2-4 Mc	3.9 Mc	C38B,C33B,C29B	
10*		2.1	2-4 Mc	2.1 Mc	Rock L24B	
11		REPEAT OPERATIONS 9 & 10				
12		17.8 Mc	16 Meters	17.8 Mc	L25,L19,L13	
13*		15.2	19 Meters	15.2	L26,L20,L14	
14		11.8 Mc	25 Meters	11.8	L27,L21,L15	
15*		9.6 Mc	31 Meters	9.6 Mc	L28,L22,L16	

* NOTE: Rock Tuning Condenser When Making Alignment Under Operations 5, 7, 10, 12, 13, 14 & 15.

NOTE: If Trimmers C3F, C3D, C

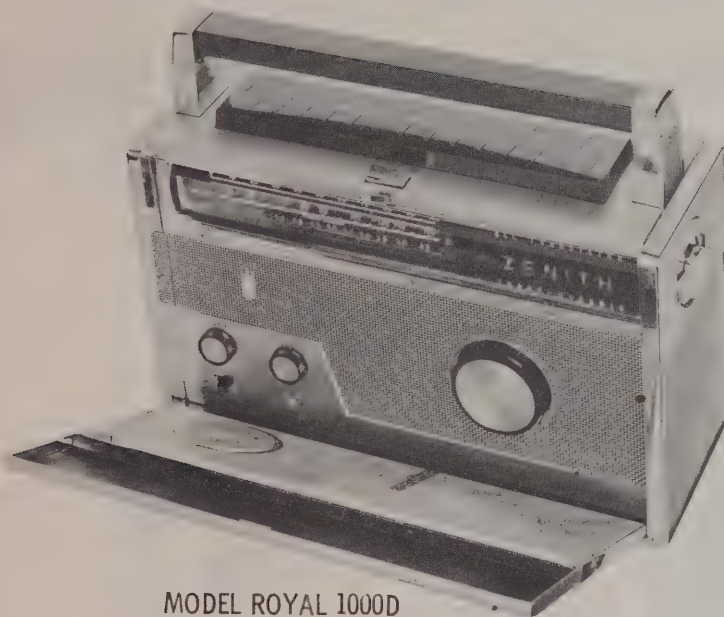
PHOTOFACT® Folder



ZENITH CHASSIS
9HT40Z2, 9HT41Z2

ROYAL
1000D

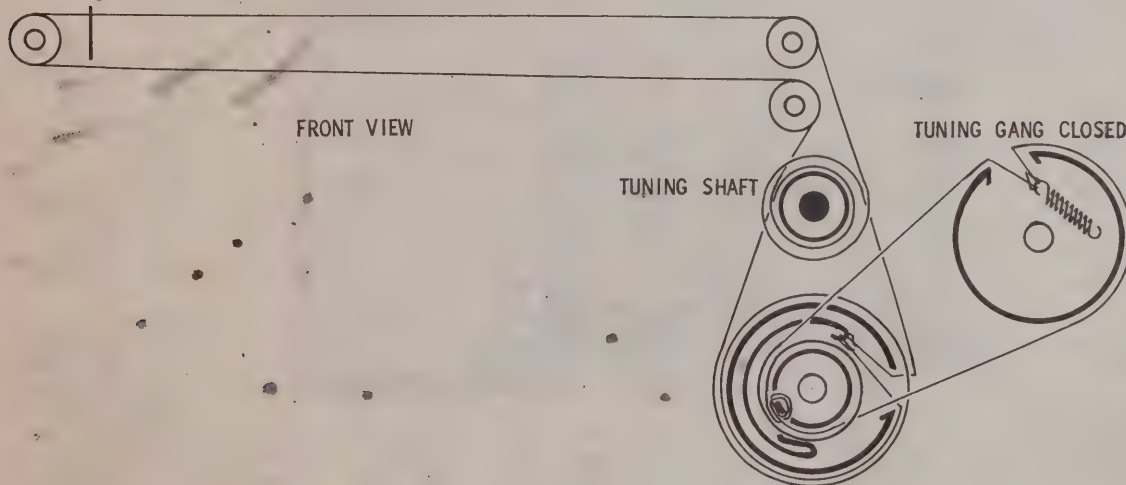
ZENITH CHASSIS
9HT40Z2, 9HT41Z2



MODEL ROYAL 1000D

TRADE NAME	Zenith Models Royal 1000 (Ch. 9HT40Z2), Royal 1000D (Ch. 9HT41Z2)		
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois		
TYPE SET	Battery Operated Transistorized Multi-Band Portable AM Receiver		
POWER SUPPLY	12 Volts DC (Radio) 1.5 Volts DC (Dial Light)	RATING	13MA @12 Volts DC (No Signal, Min. Volume) 15MA @12 Volts DC (Signal, Normal Volume)
TUNING RANGES	150-400KC (Model Royal 1000D only) 540-1600KC 2-4MC 4-9MC 9.4-10MC		11.4-12.2MC 14.7-15.7MC 17.1-18.5MC 20.7-22.4MC

DIAL CORD STRINGING



HOWARD W. SAMs & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of LF200

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

DATE 6-62

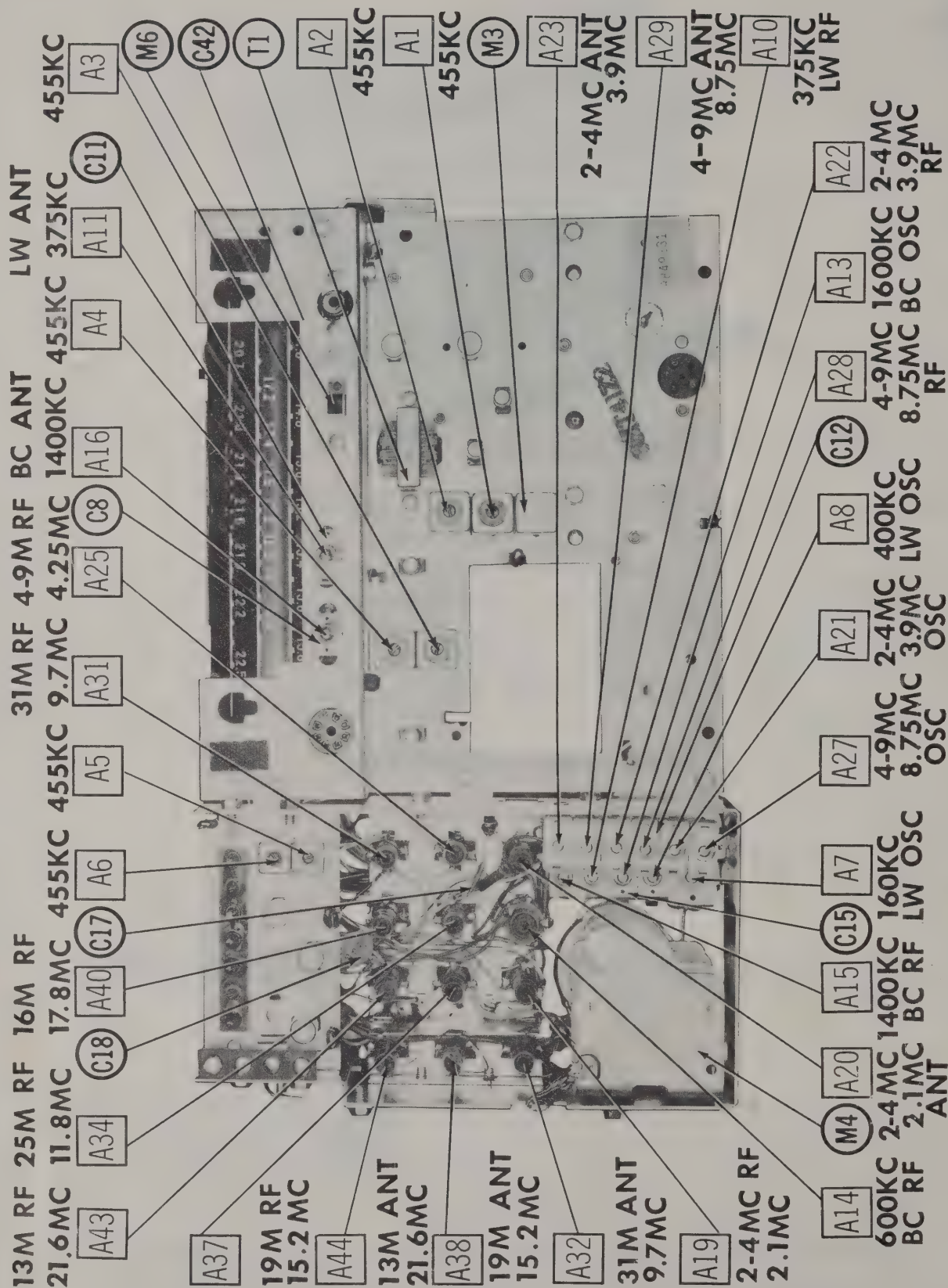
SET 582

FOLDER 14

ZENITH CHASSIS
9HT40Z2, 9HT41Z2

SET 582 FOLDER 14





CHASSIS REAR VIEW - ALIGNMENT, CAPACITOR, TRANSFORMER & MISC. IDENT.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Steps 2 thru 5 apply to Model Royal 1000D only.

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

All IF Coils GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989
WALSCO #2515, 2531, 2532

All Oscillator, RF and Antenna Coils

GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440

WALSCO #2526, 2543, 2544, 2545

All Variable Trimmers

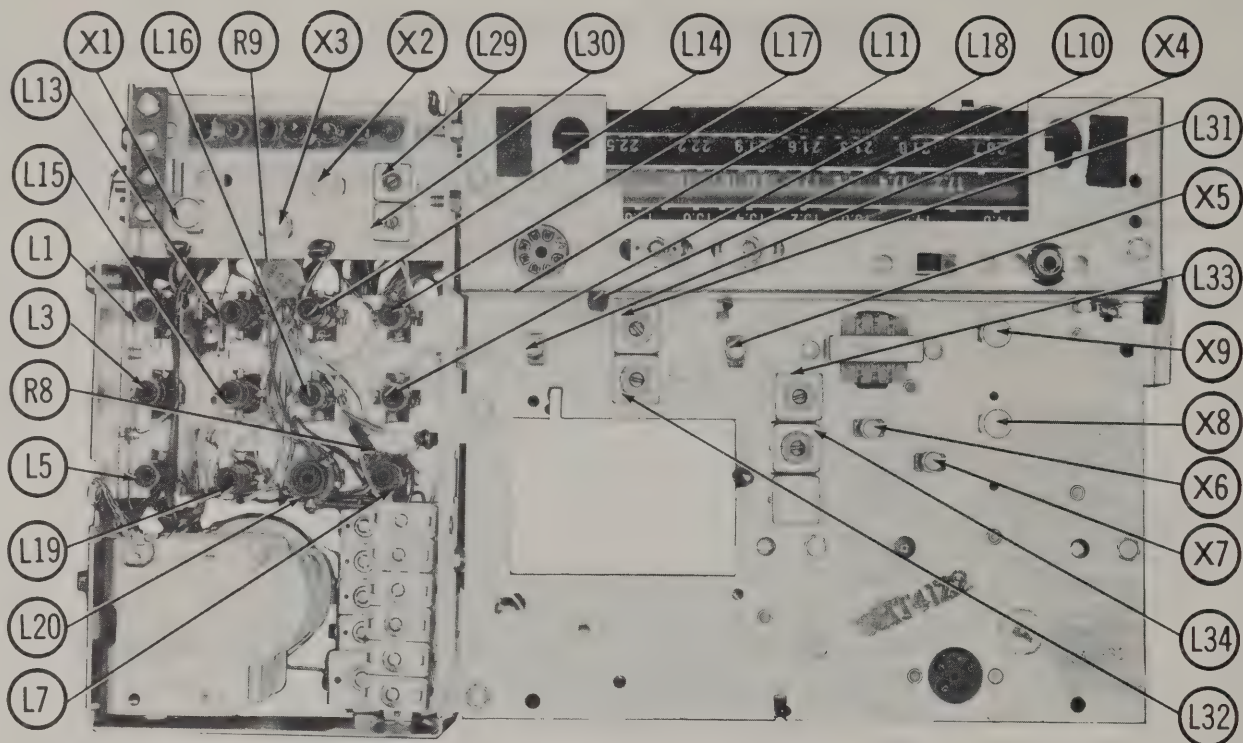
GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089

WALSCO #2512, 2525, 2528

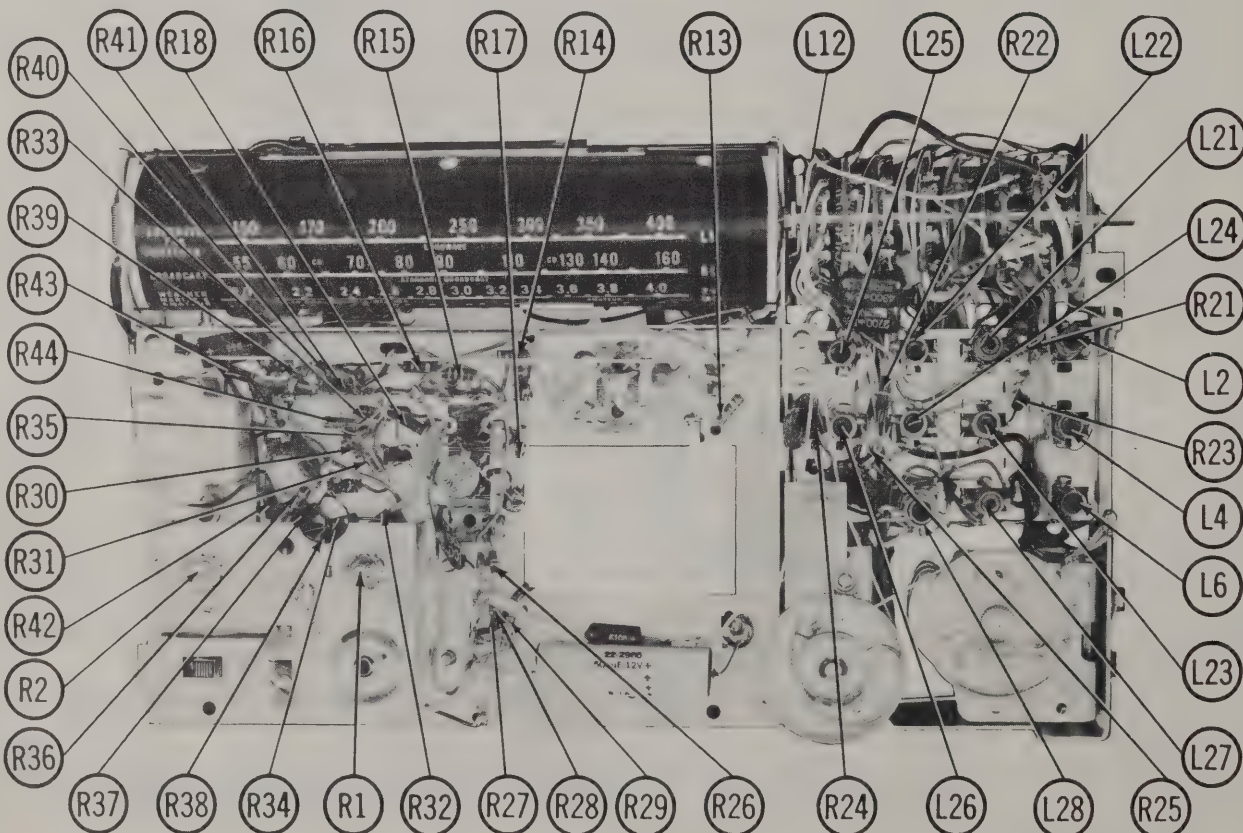
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)	(BC) Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4, A5, A6	Adjust for maximum output.
2.	Loop coupled loosely to long wave antenna.	160KC	(LW) 160KC	"	A7	"
3.	"	400KC	400KC	"	A8	Adjust for maximum output. Repeat steps 2 and 3.
4.	"	160KC	160KC	"	A9	Adjust for maximum output.
5.	"	375KC	375KC	"	A10, A11	Adjust for maximum output. Repeat steps 4 and 5.
6.	Loosely coupled to BC antenna.	600KC	(BC) 600KC	"	A12	Adjust for maximum output.
7.	"	1600KC	1600KC	"	A13	Adjust for maximum output. Repeat steps 6 and 7.
8.	"	600KC	600KC	"	A14	Adjust for maximum output.
9.	"	1400KC	1400KC	"	A15	Adjust for maximum output. Repeat steps 8 and 9.
10.	"	"	"	"	A16	Adjust for maximum output.
11.	Loosely coupled to detachable wave-magnet.	"	"	"	A17	Place detachable wave-magnet in center of a metal framed window and adjust A17 for maximum output.
12.	3 feet of wire approximately 1 foot from and parallel with extended rod antenna.	2.1MC	2.1MC	"	A18, A19, A20	Adjust for maximum output.
13.	"	3.9MC	3.9MC	"	A21, A22, A23	"
14.	"	4.25MC	4.25MC	"	A24, A25, A26	"
15.	"	8.75MC	8.75MC	"	A27, A28, A29	"
16.	"	9.7MC	9.7MC	"	A30, A31, A32	"
17.	"	11.8MC	11.8MC	"	A33, A34, A35	"
18.	"	15.2MC	15.2MC	"	A36, A37, A38	"
19.	"	17.8MC	17.8MC	"	A39, A40, A41	"
20.	"	21.6MC	21.6MC	"	A42, A43, A44	Adjust for maximum output. Repeat steps 12 thru 20.

ZENITH CHASSIS
9HT40Z2, 9HT41Z2

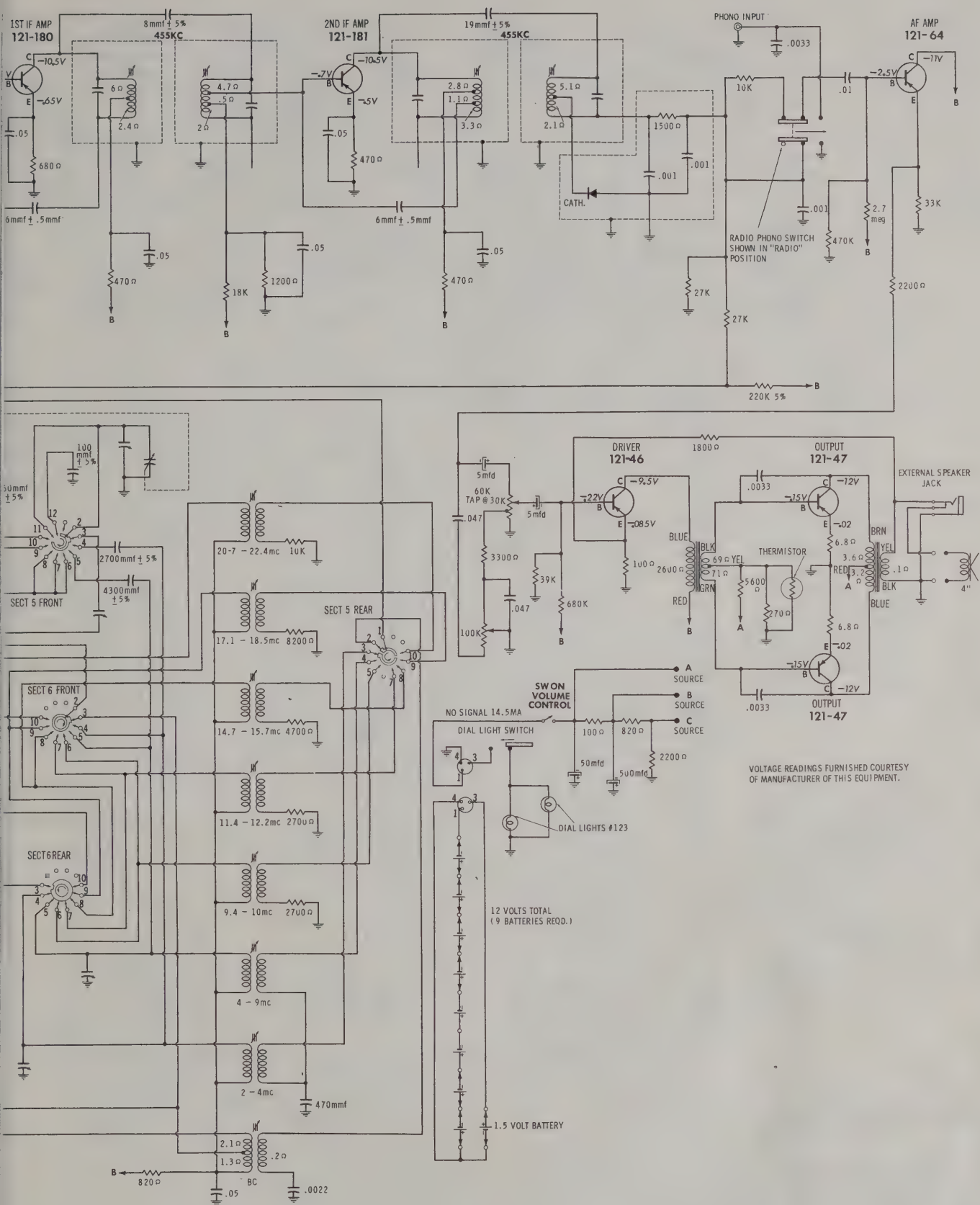
FOLDER 14



CHASSIS REAR VIEW - INDUCTOR, RESISTOR & TRANSISTOR IDENT.

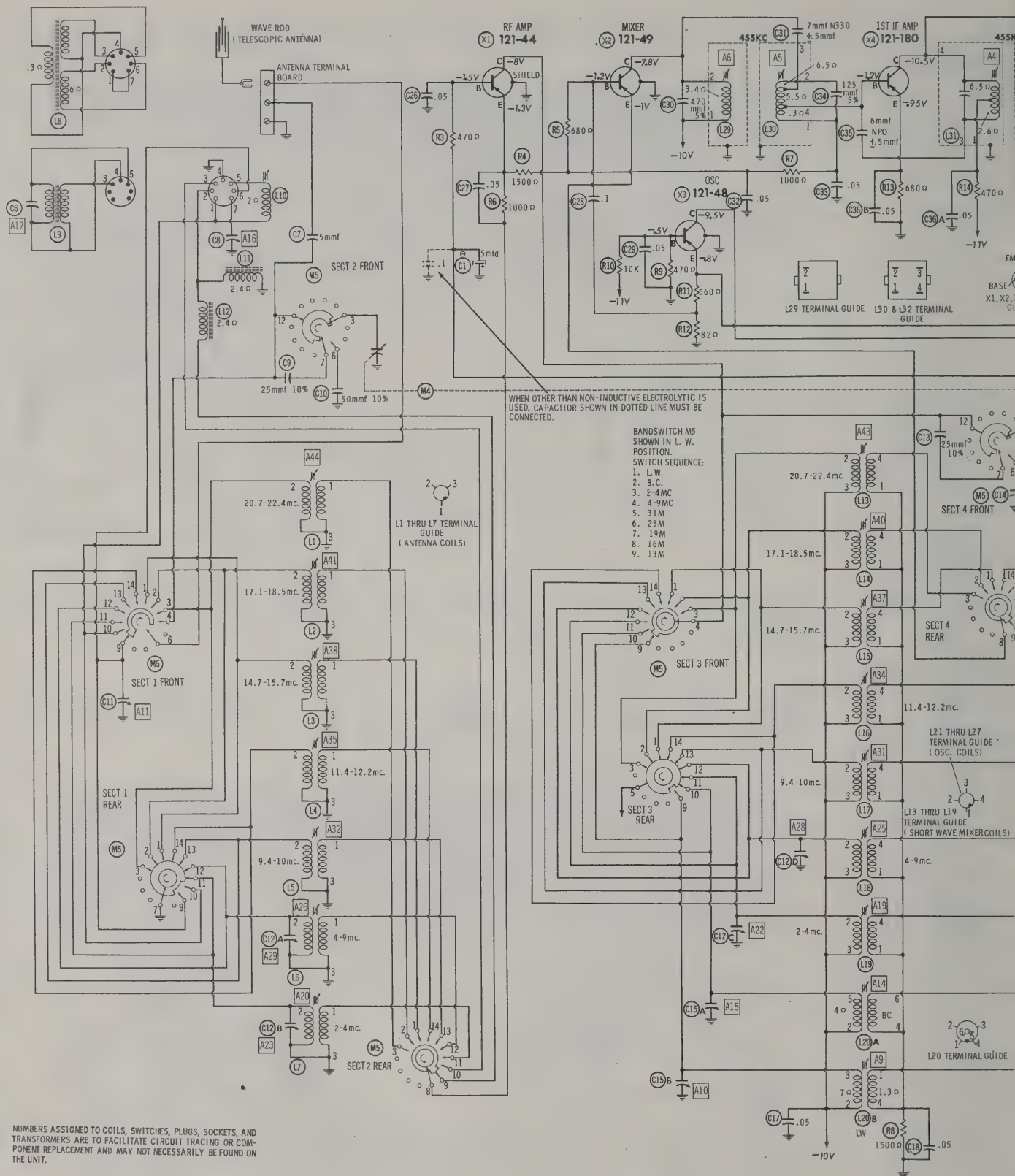


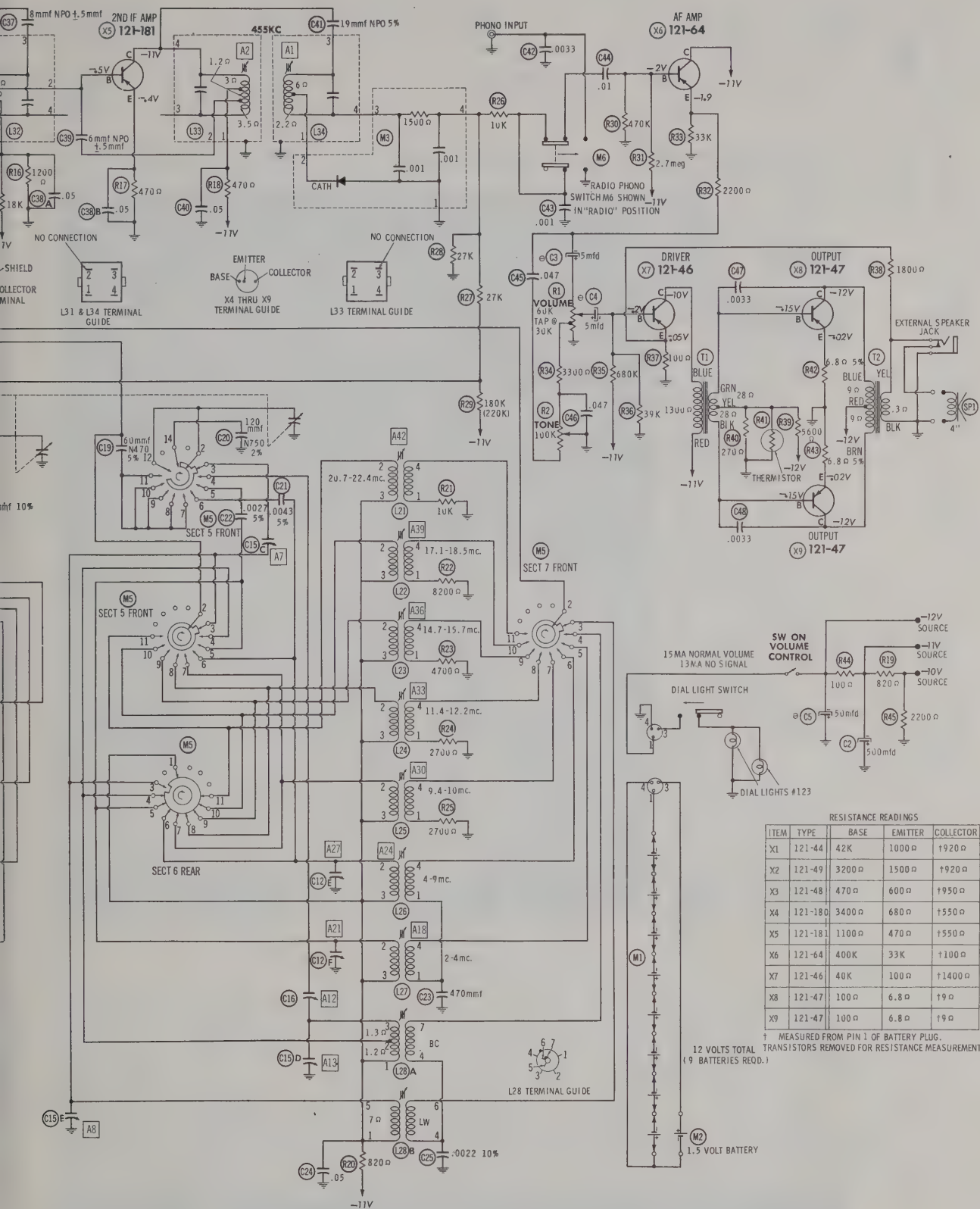
CHASSIS FRONT VIEW - INDUCTOR & RESISTOR IDENT.



VOLTAGE READINGS FURNISHED COURTESY OF MANUFACTURER OF THIS EQUIPMENT.

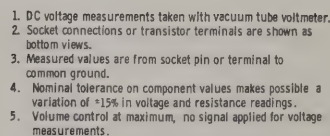
**ZENITH CHASSIS
9HT40Z2**





RESISTANCE READINGS				
ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	121-44	42K	1000Ω	†920Ω
X2	121-49	3200Ω	1500Ω	†920Ω
X3	121-48	470Ω	600Ω	†950Ω
X4	121-180	3400Ω	680Ω	†550Ω
X5	121-181	1100Ω	470Ω	†550Ω
X6	121-64	400K	33K	†100Ω
X7	121-46	40K	100Ω	†1400Ω
X8	121-47	100Ω	6.8Ω	†9Ω
X9	121-47	100Ω	6.8Ω	†9Ω

† MEASURED FROM PIN 1 OF BATTERY PLUG.
12 VOLTS TOTAL TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS
(9 BATTERIES REQ.)

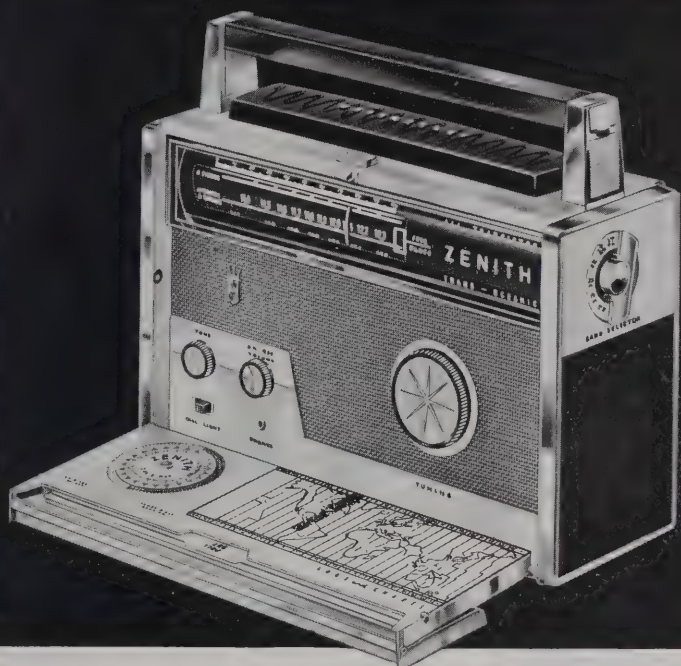


A PHOTOFAC STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1962

Introducing...the World's Most Magnificent Radio...

New All Transistor (TUBELESS) TRANS-OCEANIC®

STANDARD AND SHORT WAVE PORTABLE RADIO



There can be
no finer gift!

The smallest
and lightest
Band Spread
Short Wave
Portable Radio
ever produced!

TRANSISTORS provide this new Trans-Oceanic Radio with a spectacular reach. And, at the same time, they have made it possible for Zenith to whittle down size and weight to virtually half that of conventional short wave portables. The new Trans-Oceanic weighs just 13 lbs., is as compact as a camera! With this All Transistor Radio, there's no need for tubes, bulky "B" batteries, or AC/DC power supply.

Its undistorted power output is 92% greater than any tube type short wave portable. Guarantees outstanding performance in steel buildings, planes, trains, automobiles, and to ship... The new Trans-Oceanic Radio is truly astounding.

Perfect gift for the yachtsman, traveler, sportsman, diplomat, or for the man "who has everything." Perfect, indeed, for anyone whom you'd really like to please.



POWERED TO TUNE IN THE WORLD

8 Individual Wave Bands! \$250*

8 SUPER-SENSITIVE BANDS

... including International Short Wave, Standard Broadcast, Marine, Weather, Ship-to-Ship, Ship-to-Shore, and Amateur Short Wave. The Trans-Oceanic Radio also gives you the finest in domestic long-distance reception.

OPERATES ON LOW COST FLASHLIGHT BATTERIES

... available anywhere, here or abroad. No tubes, no "B" batteries. Operation costs only a fraction of a cent per hour.

BAND SPREAD TUNING

... provides up to 1400% more room on

the dial for every short wave station. Makes tuning more accurate, easier.

ROTARY BAND SELECTOR

Slide-rule dial. One knob tunes all bands. Dialite for operation under adverse lighting conditions.

WAVEROD ANTENNA—

WAVEMAGNET® ANTENNA

... the handle itself unfolds and telescopes to a vertical Waverod Antenna, for the world's most sensitive and powerful short wave reception. Zenith patented detachable Wavemagnet Antenna

for use in trains, planes, automobiles. Fastens on window. Assures far greater sensitivity for standard broadcasts.

TROPICALLY TREATED

to perform even in high jungle humidity!

EARPHONE ATTACHMENT

(optional) for private listening, extra.

PHONO JACK

so you can plug in your record player.

REMEMBER...a battery powered portable is as necessary in your home as a flashlight in case of power failure caused by air raid or other emergency.

QUALITY BY
Zenith
The Royalty of Radio®

The quality goes in before the Zenith name goes on

*Manufacturer's suggested retail price, including batteries. Price and specifications subject to change without notice.



ZENITH RADIO CORPORATION • CHICAGO 39, ILLINOIS

America's pioneer in fine radios for the home.

Also makers of Television, High Fidelity Instruments, and fine Hearing Aids.

Mention the National Geographic—It identifies you



Only TCA flies VISCOUNTS to Canada...

... and more people fly TCA
to Canada than any other airline

The skiing's great in Canada. Enjoy a Winter Holiday in either the beautiful Laurentians or the breath-taking Canadian Rockies. Come TCA, from one of seven convenient U. S. "gateway cities." Only TCA flies the fast, smooth prop-jet Viscount to Canada.

TRANS-CANADA AIR LINES



For Information see your local Travel Agent, or contact TCA in: Boston, New York, Cleveland, Detroit/Windsor, Chicago, Seattle/Tacoma, Tampa/St. Petersburg, Los Angeles.



life begins with Airstream

A whole world of new interests, relaxed easy living is yours in an Airstream. This is travel...care-free, exciting, economical. Enjoy the sea, the woods, the mountains with all the comforts of home. Write for interesting free booklet "World At Your Doorstep."



AIRSTREAM TRAILERS Dept. AG
11 CHURCH ST JACKSON CENTER OHIO • 12804 E FIRESTONE NORWALK CALIF

Add-a-Coin Bracelet

... TRUE AMERICANA
U.S.A. GOLD COINS 30 TO 100 YEARS OLD
COLLECTOR'S ITEM

Heavy 14kt gold bracelet suspending rare
U.S. GOLD COINS, in 14kt gold rims.
Bracelet, one coin \$100—additional coins
may be added on gift occasions.



Illustrated
1/2 size

Johnston JEWELS LTD.
WALDORF ASTORIA HOTEL
NEW YORK CITY

Complete bracelet
with 5 gold coins
as illustrated **\$250.**

Brochure and Sample
Jewelry Cleaner—
FREE upon request.

NOW... AMPEX STEREO SOUND

IN YOUR OWN HOME

... true Stereophonic Sound—the same sound you heard in "Around the World in 80 Days" by AMPEX, creators of the Videotape Recorder, makers of America's best-engineered, most-wanted home music systems. Send for free color brochure today!

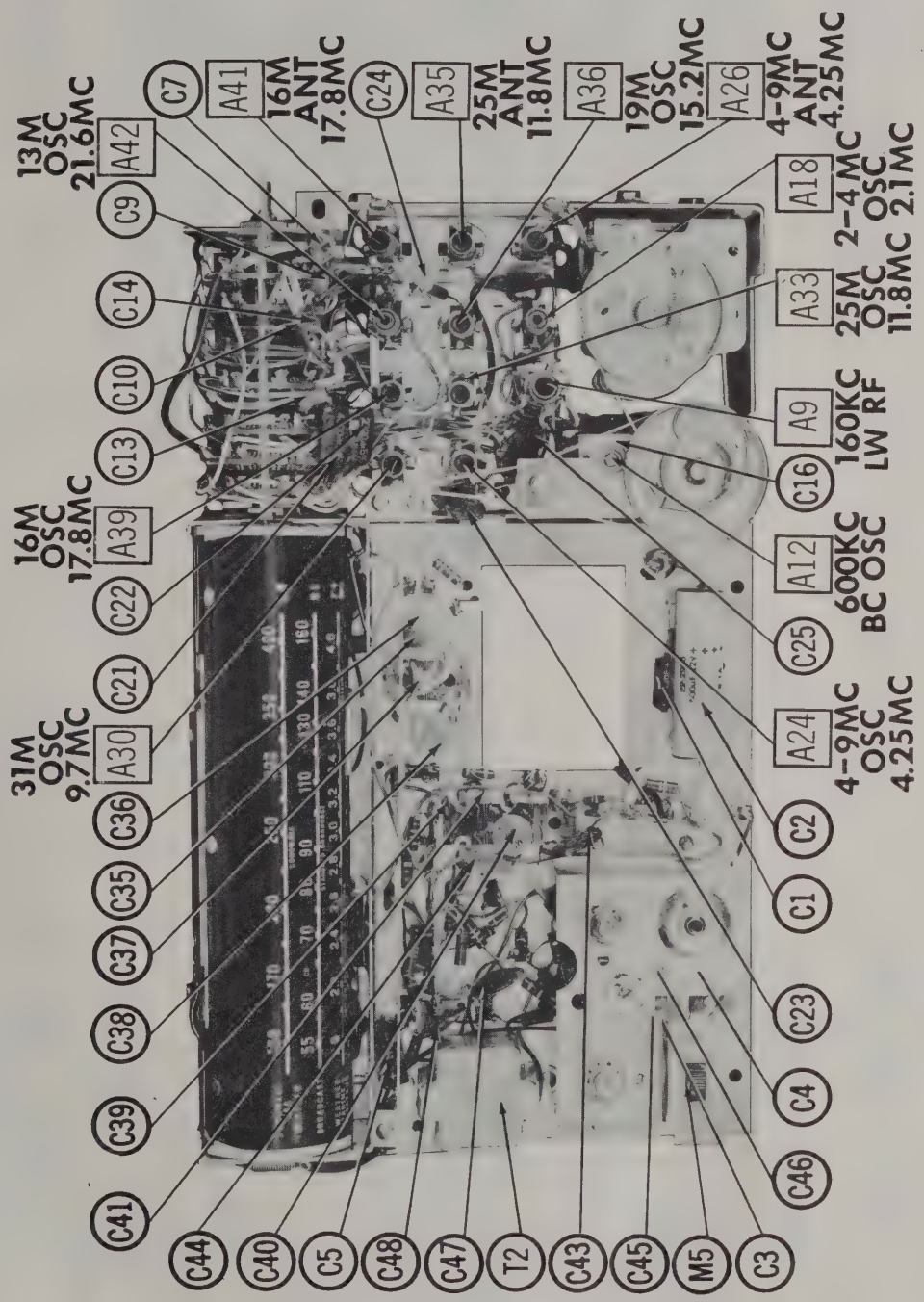
AMPEX AUDIO, Inc.
1030 KIFER RD., SUNNYVALE, CALIF.
PLEASE SEND FREE COLOR BROCHURE
ON AMPEX STEREOPHONIC SOUND:

NAME _____

ADDRESS _____

CITY _____

Mention the National Geographic—It identifies you



CHASSIS FRONT VIEW - ALIGNMENT, CAPACITOR, TRANSFORMER & MISC. IDENT.

ZENITH
CHASSIS 9HT41Z2

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	MFG. PART No.	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	121-44	RF Amplifier	2N370		PNP
X2	121-49	Mixer	2N372		PNP
X3	121-46	Oscillator	2N371		PNP
X4	121-180	1st IF Amplifier			PNP
X5	121-181	2nd IF Amplifier			PNP
X6	121-64	AF Amplifier	2N408		PNP
X7	121-46	Driver	2N270	2N382	Matched Pair
X8	121-47	Output	2N270	2N380	PNP
X9	121-47	Output	2N270	2N386	PNP

ELECTROLYTIC CAPACITORS

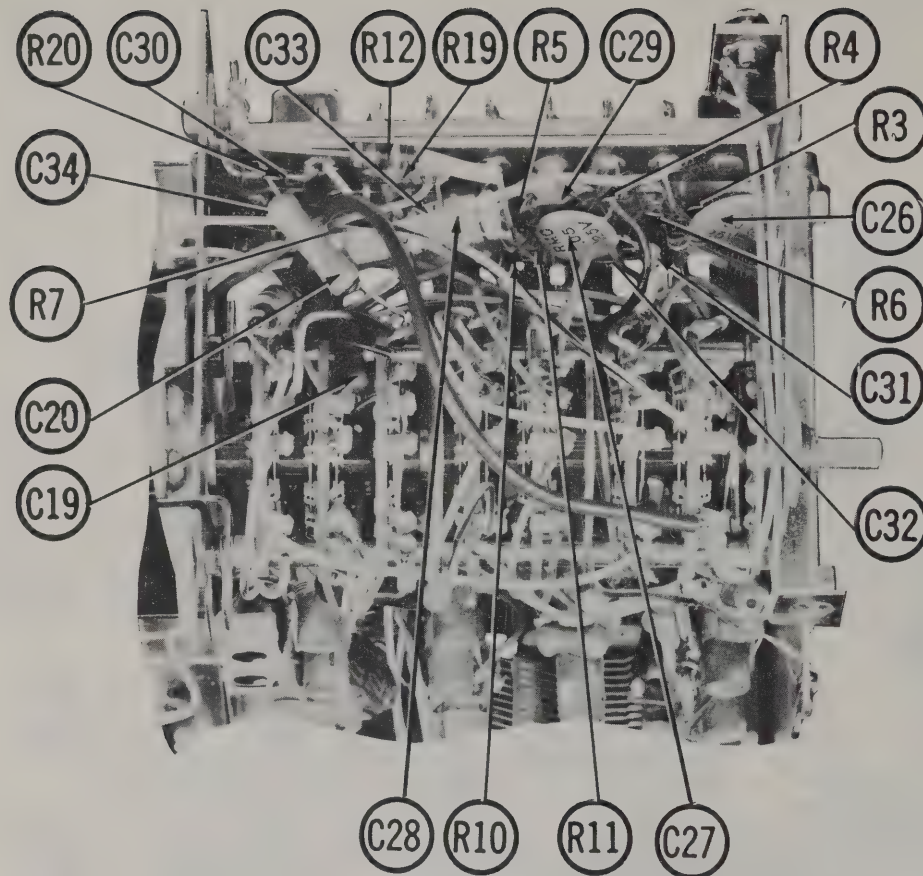
ITEM No.	RATING	ZENITH PART No.	REPLACEMENT DATA			
			AEROVOX PART No.	CORNELL-DUBIER PART No.	GENERAL ELECTRIC PART No.	SPRAGUE PART No.
C1	5 25	22-2985	PTT77	NLW5-50	MTL-3	TE-1202
C2	500 12		PRS170	BR5001	QTL-30	TVA-1132
C3	5 25		PTT77	NLW5-50	MTL-3	TE-1202
C4	5 25		PTT77	NLW5-50	MTL-3	TE-1202
C5	50 15		PTT72	NLW50-15	MTL-16	TE-1160

① Some versions may use 3mfid@12V (Part #22-2984).

② Some versions may use 50mfid@12V (Part #22-2863).

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBIER PART No.	ELMENDO PART No.
C6	5	#22-2983	NPO-SI 5.0	TCZ-4R7	C10V5C	CCTO-050
C7		#22-2983	NPO-SI 25	TCZ-25	C10Q25C	CCTO-270
C8	25 10%		NPO-SI 50	TCZ-50	C10Q5C	CCTO-510
C9	50 10%	#22-2989				
C10		#22-2969				
C11						
C12A						
C13	25 10%		NPO-SI 25	TCZ-25	C10Q25C	CCTO-270
C14	50 10%		NPO-SI 50	TCZ-50	C10Q5C	CCTO-510
C15A						
C16	.05		BPD-05	DDA-503	H-0555	CNO-425
C17	.05		BPD-05	DDA-503	H-0555	CNO-450
C18	60 N470 5%					
C19	120 N750 2%	#22-2979				
C20	.0043 5%	#22-3113	1464-0043	DD-471	IR5D43	CCTO-270
C21	.0027 5%		1464-0027	DD-470	IR5D27	CCTO-510
C22	470					
C23	.05		BPD-05	DDA-503	H-0555	CCTO-270
C24	.0022 10%		BPD-05	DDA-503	H-0555	CCTO-510
C25	.05		BPD-05	DDA-503	H-0555	
C26	.05		BPD-05	DDA-503	H-0555	
C27	.05		BPD-05	DDA-503	H-0555	
C28	.05		BPD-05	DDA-503	H-0555	
C29	470 5%		BPD-05	DDA-503	H-0555	
C30	7 N330 ±.5mmf		1468-00047	DDA-503	H-0555	
C31						
C32						



BAND SWITCH

PARTS LIST AND DESCRIPTIONS (Continued)

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNNEL-DUBILIER PART No.	ELEMCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C33	.05		BPD-.05	DDA-503	H-05S5	CM-19B-131J	TA-150	TG-550
C34	125 5%		1468-00013	DTZ-6R8	22K3113	CCTO-6R8	CNO-312	MS-313
C35	6 NPO \pm 5mmf		BPD-.05	DDA-503	H-05S5		CNO-568	10TCC-V68
C36A	.05		BPD-.05	DDA-503	H-05S5		TA-150	TG-550
B							TA-150	TG-550
C37	8 NPO \pm 5mmf		BPD-.05	NPO-DI 8, Z	C10V8C		TA-150	10TCC-V82
C38A	.05		BPD-.05	DD-503	H-05S5		TA-150	TG-550
B							TA-150	TG-550
C39	6 NPO \pm 5mmf		BPD-.05	DTZ-6R8	C10V6C	CCTO-6R8	CNO-568	10TCC-V68
C40	.05		BPD-.05	DDA-503	H-05S5		TA-150	TG-550
C41	19 NPO 5%		BPD-.05	DTZ-20	C10A2C	CCTO-200	CNO-422	10TCC-Q20
C42	.0033		BPD-.0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C43	.001		BPD-.001	DD-103	BYA10D1	CCD-103	B-210	5HK-D10
C44	.01		BPD-.01	DD-103	BYA10D1	CCD-103	B-110	5HK-S10
C45	.047 50V		V84C2547	DD-503	CUB2547	IDP-2-173	GEM-4147	2TM-547
C46	.047 50V		V84C2547	DD-503	CUB2547	IDP-2-173	GEM-4147	2TM-547
C47	.0033		BPD-.0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C48	.0033		BPD-.0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33

* Zenith Part Number.

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST. ANCE	ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch (Power Off-On)	80K 30K Tap	63-4623	BT-33, KR-1, or (AFT-33, KR-1)	A47F-50K/ KSS-3, SWE-12		
R2	Tone	100K	63-4624	AK-11, KR-1, B-40, or (AB-40, AK-11)	A47-100K-5/ KSS-3	QU-128, or (BU, CF13, SSI, DCI)*	U41

* "SNAPTROL".

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	IRC PART No.	WORKMAN PART No.	RATING	IRC PART No.	WORKMAN PART No.	REMARKS
R3	470 Ω							
R4	1500 Ω							
R5	680 Ω							
R6	1000 Ω							
R7	1000 Ω							
R8	1500 Ω							
R9	470 Ω							
R10	10K							
R11	560 Ω							
R12	82 Ω							
R13	680 Ω							
R14	470 Ω							
R15	18K							
R16	1200 Ω							
R17	470 Ω							
R18	820 Ω							
R19	820 Ω							
R20	820 Ω							
R21	10K							
R22	8200 Ω							
R23	4700 Ω							
R24	2700 Ω							

* Alternate Value.

FOLDER 14

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman PART No.	NOTES
L1	13M Ant.	S-42095					① Part #S-42184 used in Ch. 9HT40Z2
L2	16M Ant.	S-42094					② Not used in Ch. 9HT40Z2
L3	19M Ant.	S-42093					③ Part #S-42096 used in Ch. 9HT40Z2
L4	25M Ant.	S-42092					④ Part #S-43433 used in Ch. 9HT40Z2
L5	31M Ant.	S-42091					
L6	4-9MC Ant.	S-42090					
L7	2-4MC Ant.	S-42089					
L8A	BC Loopstick	S-43594 ①					
B	BC Loopstick	S-42212					
L9	BC Loopstick	S-42080					
L10	Ant. Loading	S-45000 ②	TV-186	6172	RTC-8590	T303	
L11	RF Choke (80uh)	S-45000 ②	TV-186	6172	RTC-8590	T303	
L12	RF Choke (80uh)	S-42103					
L13	13M RF	S-42103					
L14	16M RF	S-42102					
L15	19M RF	S-42101					
L16	25M RF	S-42100					
L17	31M RF	S-42099					
L18	4-9MC RF	S-42098					
L19	2-4MC RF	S-42097					
L20A	BC RF	S-43364 ③					
B	LW RF	S-42088					
L21	13M Osc.	S-42087					
L22	16M Osc.	S-42086					
L23	19M Osc.	S-42085					
L24	25M Osc.	S-42084					
L25	31M Osc.	S-42083					
L26	4-9MC Osc.	S-42082 ④					
L27	2-4MC Osc.	S-42082 ④					
L28A	BC Osc.	S-43563					
B	LW Osc.	S-42087					
L29	1st IF Prim.	95-1887					
L30	1st IF Sec.	95-1888					
L31	2nd IF Prim.	95-1889					
L32	2nd IF Sec.	95-1870					
L33	3rd IF Pri.	95-1871					
L34	3rd IF Sec.	95-1872					

TRANSFORMER (DRIVER)

ITEM No.	URNS RATIO	ZENITH PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	1:4 1	95-1684					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	ZENITH PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	2000 Ω T	3-4Q	95-1883				

SPEAKER

ITEM No.	TYPE	SIZE	FIELD	V. C. IMP.	PM	ZENITH PART No.	QUAM PART No.	NOTES
SP1	4"	4"	3-4Q	3-4Q	PM	49-829	4A1	

ZENITH CHASSIS
9HT40Z2, 9HT41Z2

PARTS LIST AND DESCRIPTIONS (Continued)

BATTERIES

ITEM No.	VOLTAGE	ZENITH PART No.	REPLACEMENT DATA				NOTES	
			BURGESS		EVEREADY			
			"A"	"B"	"A"	"B"		
M1	1½V	Z-2NL		230	A100		M-13R	8 Required (Radio)
M2	1½V	Z-2NL		230	A100		M-13R	1 Required (Dial Light)

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	Detector Assembly	S-52650	Includes Diode, Part #103-31, 2-1000mmf Capacitors & 1500Ω Resistor 3 Gang (Chassis 9HT41Z2) 3 Gang (Chassis 9HT40Z2) Chassis 9HT41Z2 (Part of Switch & Coil Assembly #S-43367) Chassis 9HT40Z2 (Part of Switch & Coil Assembly #S-42118) Radio-Phono (DPDT Slide Type) Telescoping
M4	Tuning Cap.	22-3050	
M5	Tuning Cap.	22-2872	
M5	Band Switch	85-468	
M6	Band Switch	85-467	
	Switch	85-485	
	Antenna	S-42207	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

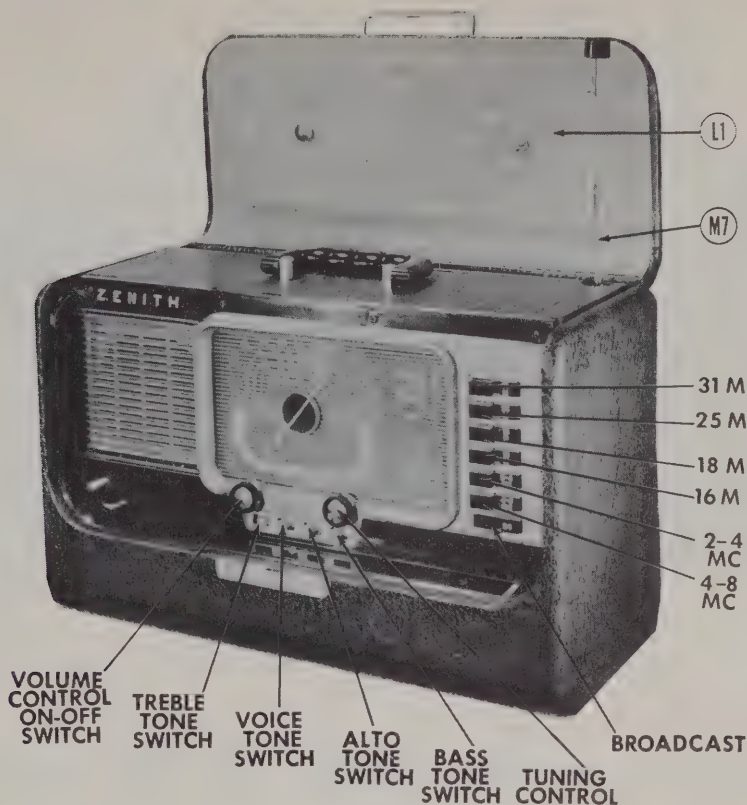
NAME	PART NO.	DESCRIPTION
Dial Crystal	192-236	
Knob, Volume	46-2005	Model 1000D
Knob, Volume	46-1893	Model 1000
Knob, Tuning	46-1809	(Use Clamping Ring #188-177)
Knob, Tone	46-2006	Model 1000D
Knob, Tone	46-1811	Model 1000
Knob, Antenna	46-1812	(Part of Antenna)
Knob, Release	46-1810	
Knob, Selector	S-50105	Model 1000 (Use Spring #80-1176)
Knob, Selector	S-50113	Model 1000D (Use Spring #80-1176)
Cabinet	S-43605	Model 1000D
Cabinet	S-42197	Model 1000
Handle	S-43259	Includes Pin Assembly

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No.	8530 (Solid 22AWG)	Available
		8524 (Stranded 22AWG)	in
		8570 (Stranded 28AWG)	12 Colors



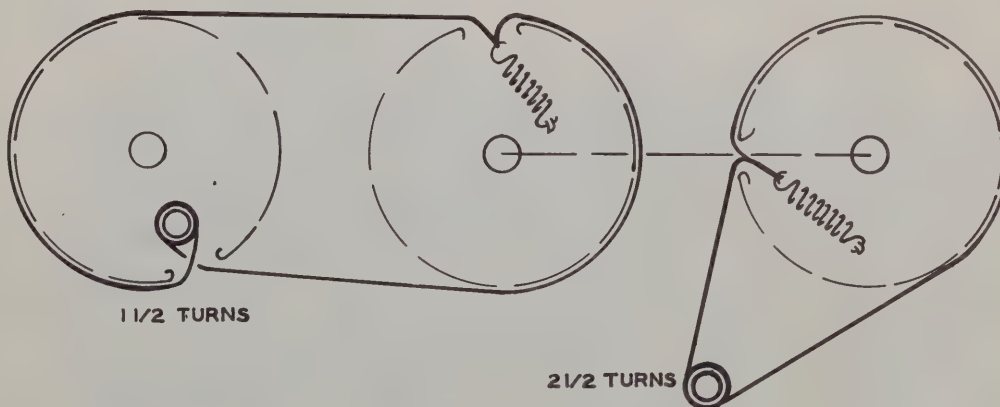
ZENITH
MODEL H500 (Ch. 5H40)



ZENITH
MODEL H500 (Ch. 5H40)

TRADE NAME	Zenith, Model H500 (Ch. 5H40)
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago, Illinois
TYPE SET	Three Power Operated Multi-Band Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types 1U4 RF Amp., 1L6 Converter, 1U4 IF Amp., 1U5 DET.-AVC-AF, 3V4 Power Output
POWER SUPPLY	110-120 Volts AC-DC or 9 Volts "A" Supply and 90 Volts "B" Supply on Pack Form
RATING	.15 Amp. at 117 Volts AC or 70MA at 9 Volts DC and 20MA at 90 Volts DC
TUNING RANGE—BROADCAST	540-1600KC
	SHORT WAVE #1 4-8MC, #2 2-4MC, #3 17.4-18.2MC, #4 14.8-15.6MC, #5 11.5-12.1MC, #6 9.4-9.8MC

TUNING GANG FULLY CLOSED



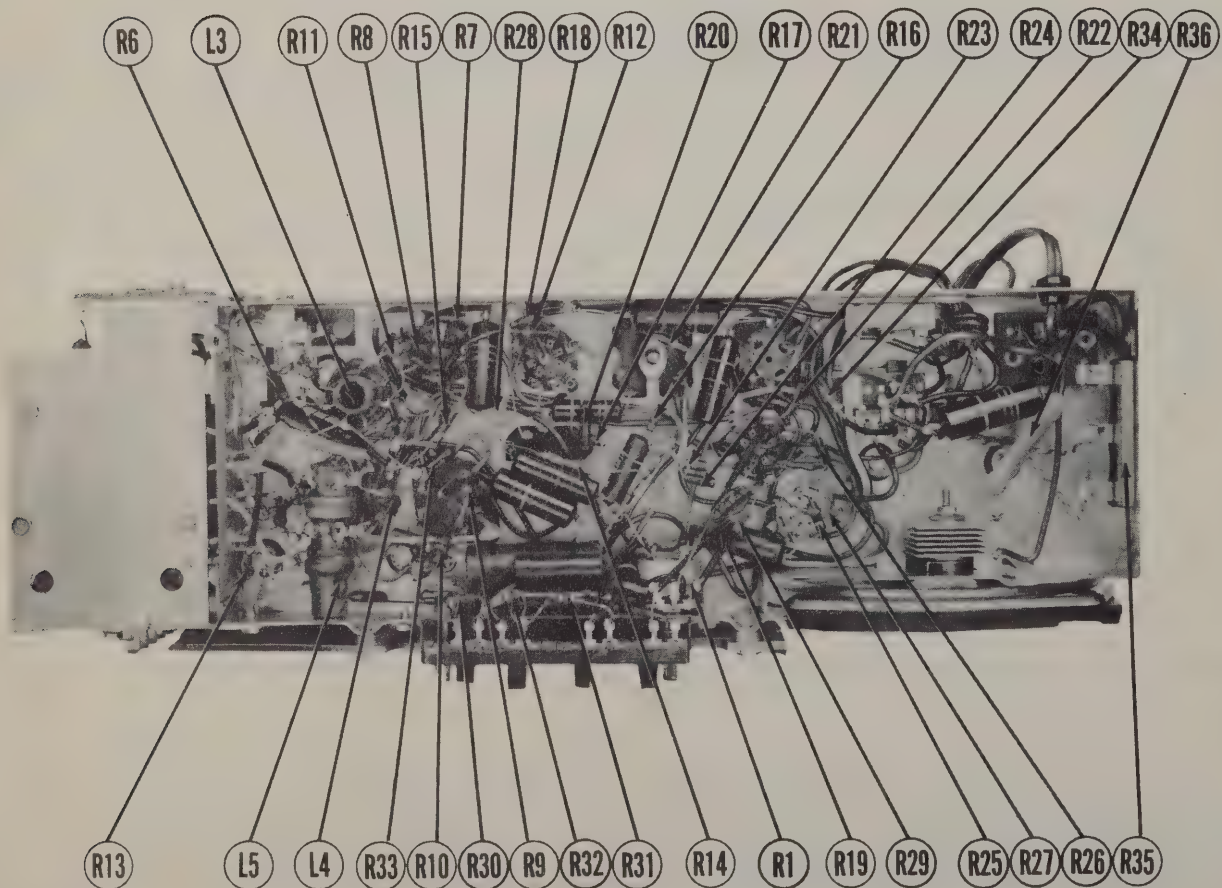
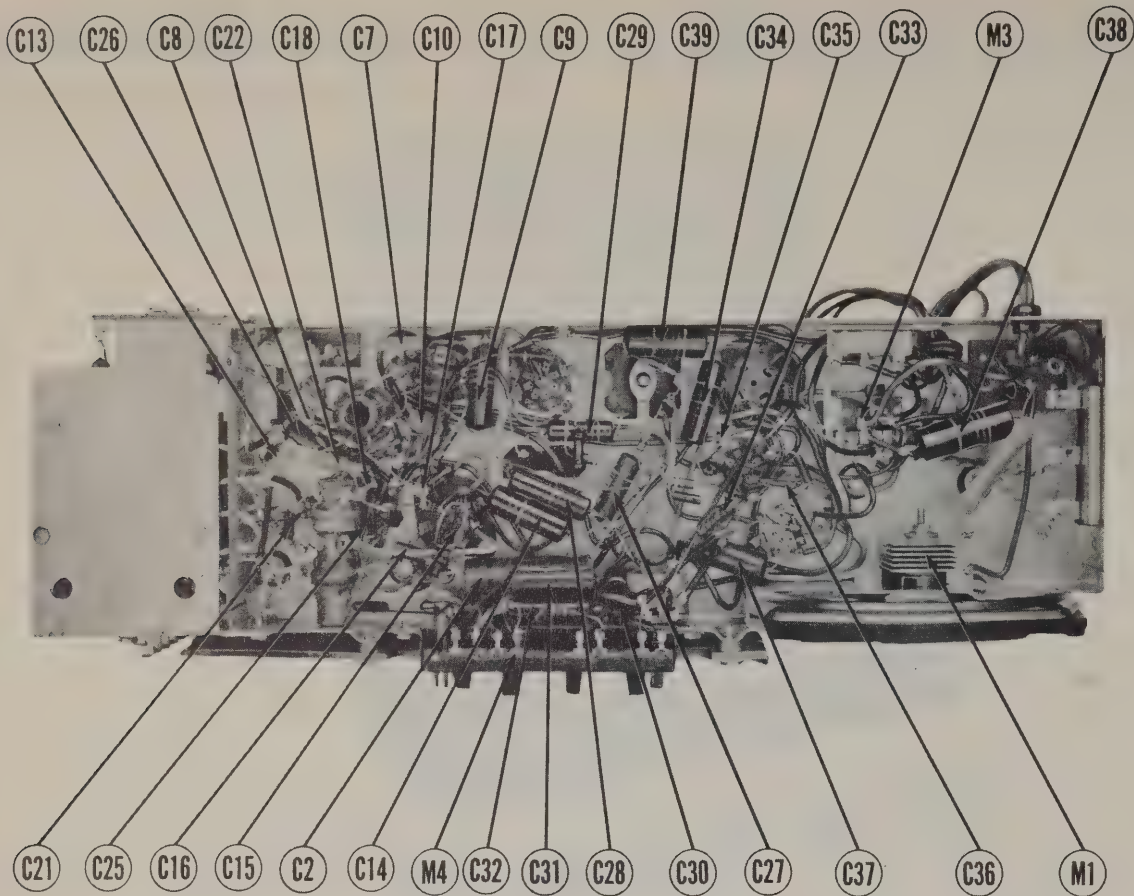
DIAL CORD DRIVE

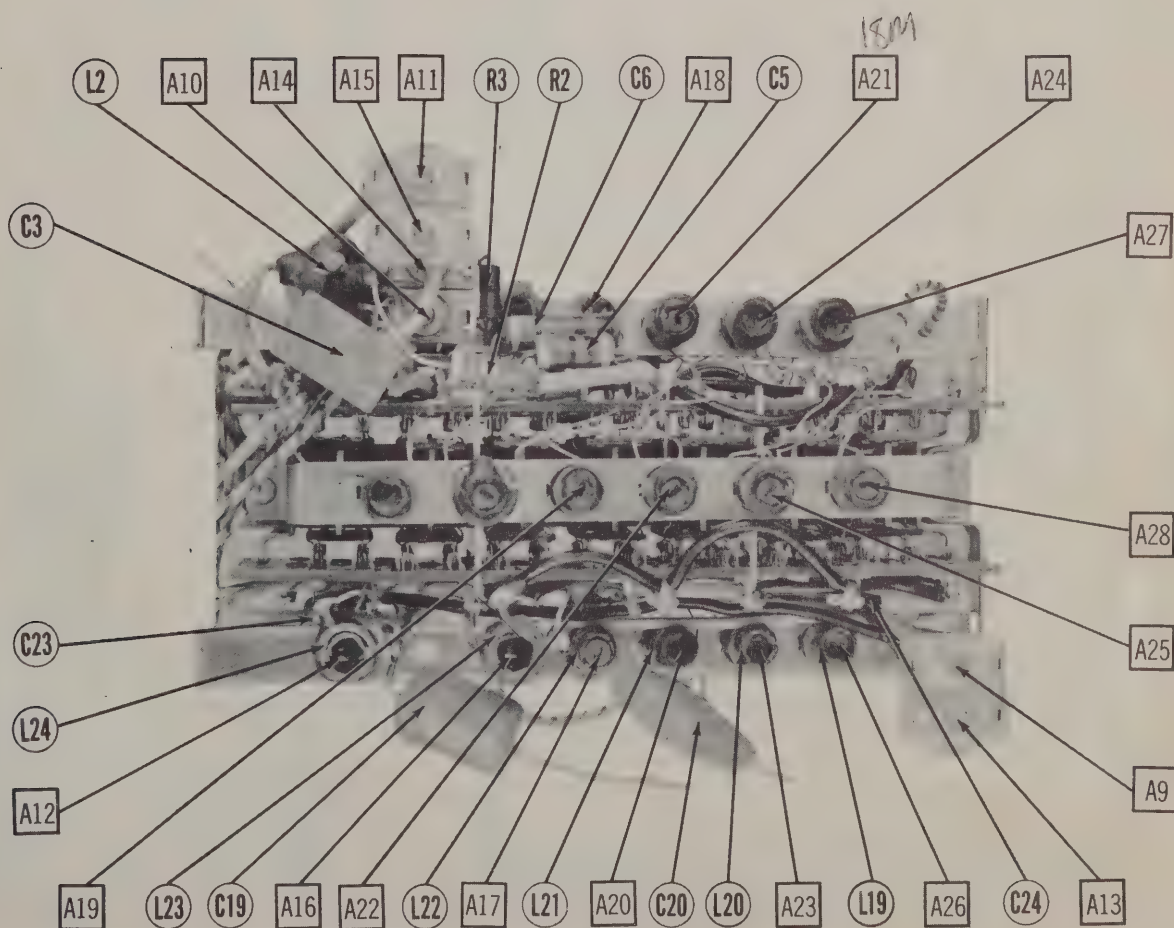
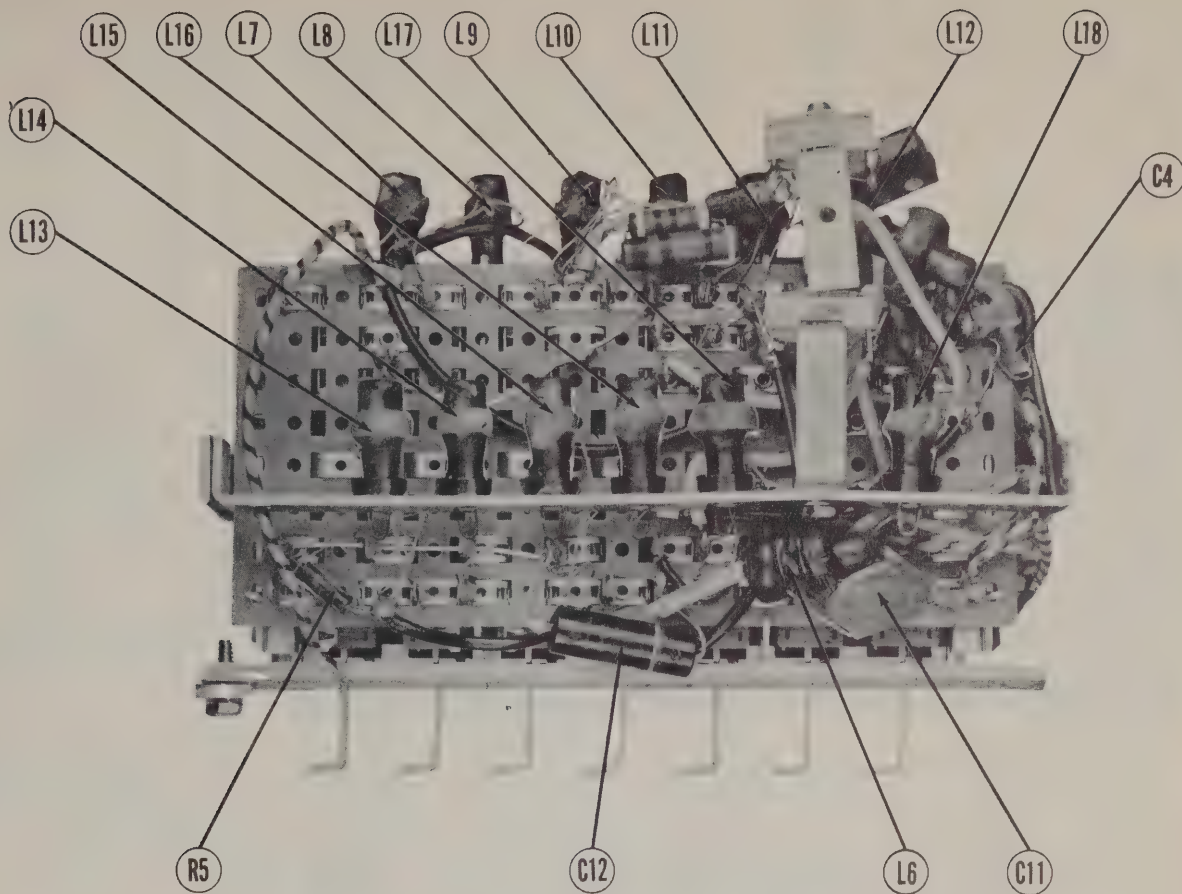
HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

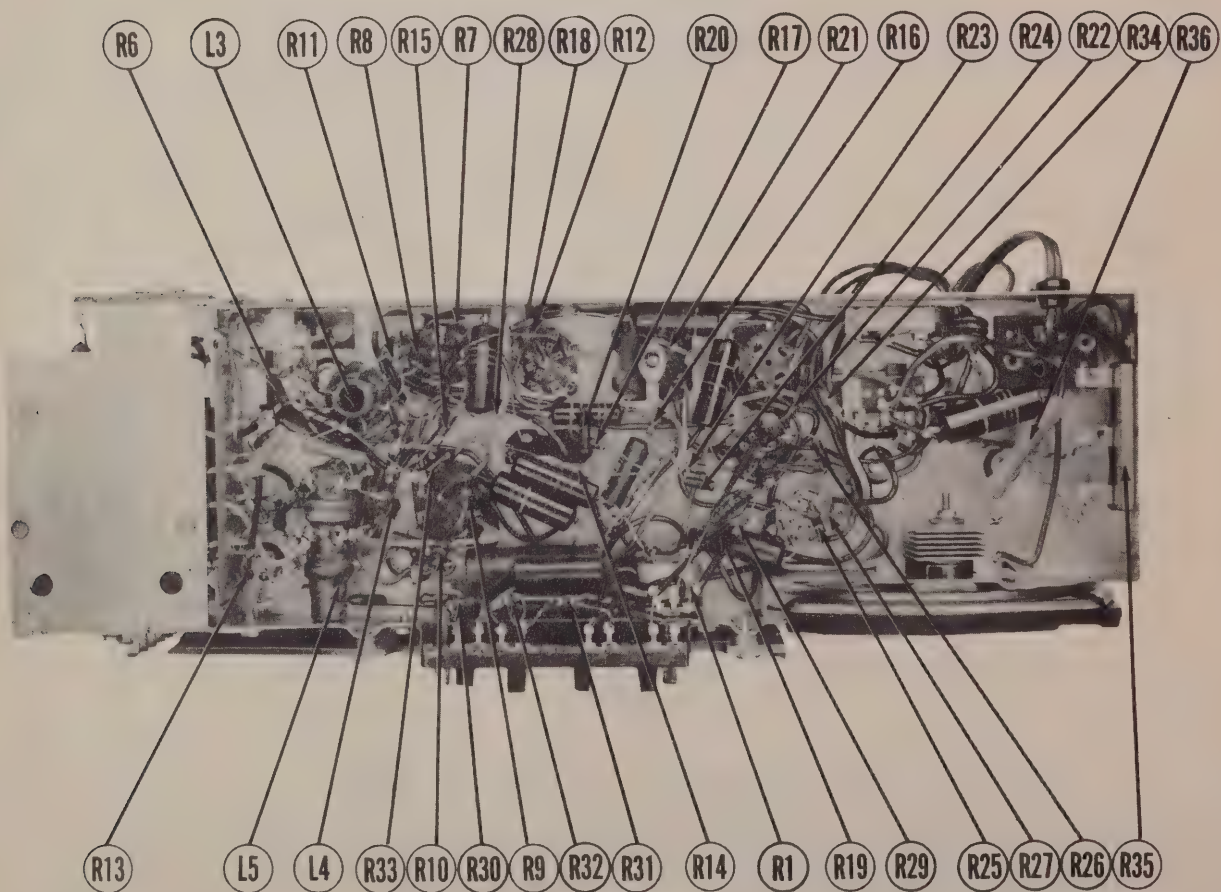
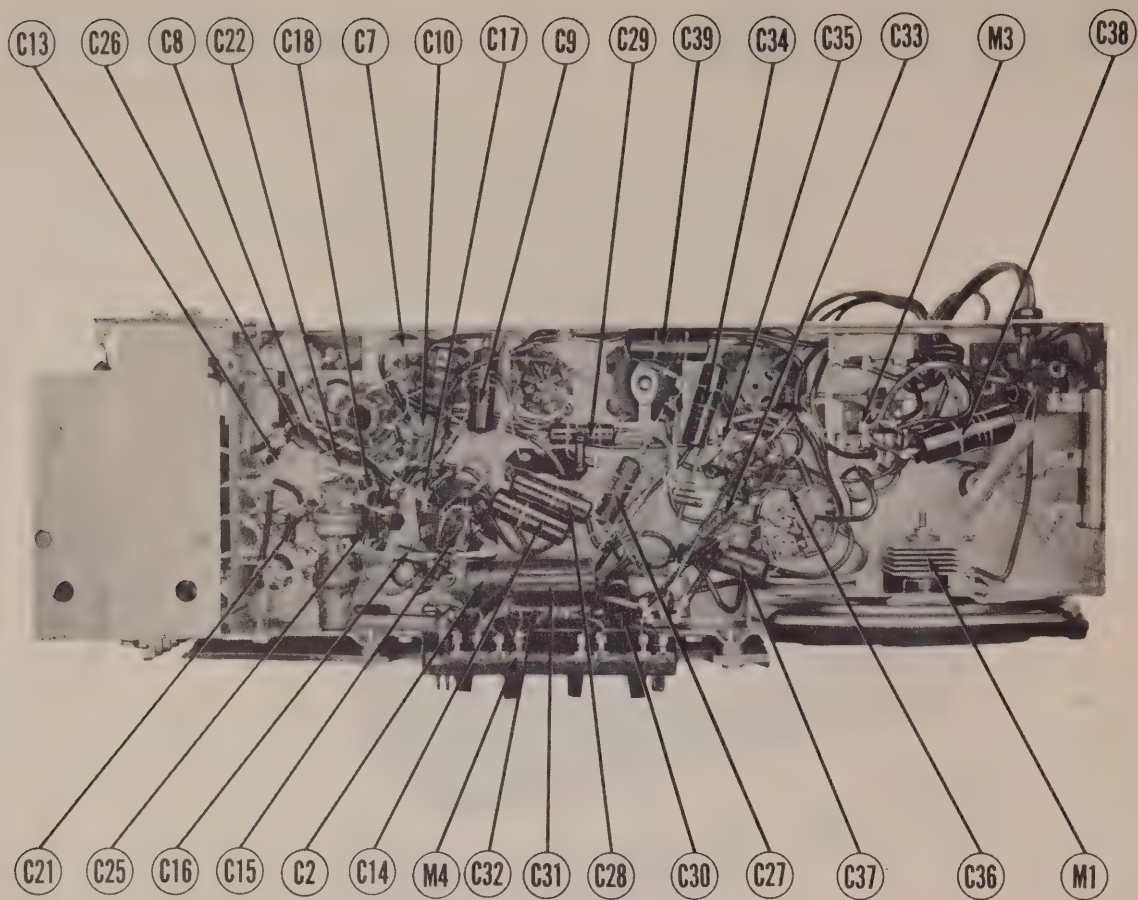
"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

"Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1951 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America








ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

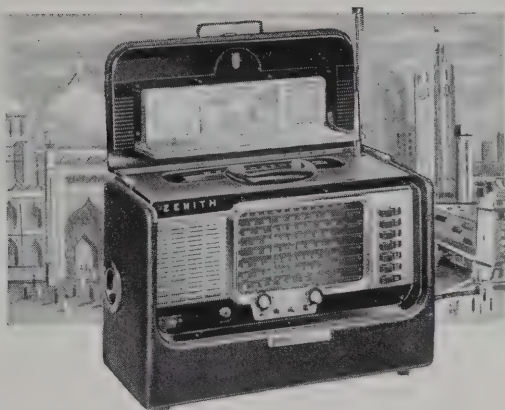
To set pointer, turn tuning capacitor fully closed and set pointer, parallel with base of dial.
 Use battery power, if possible. If AC power is used, use an isolation transformer when available. If not, connect a .1MF capacitor in series with low side of the signal generator and B-.
 Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
 Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MF.	High side to pin 6, (Grid), of 1L6, (V2). Low side to B-.	455KC (400v Mod.)	BC (bottom button)	600KC	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output. If AC power is used without an isolation transformer, reduce dummy antenna to 200MMF to reduce hum modulation.
2.		Loop	1600KC	"	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		Loop	1400KC	"	1400KC	"	A6, A7	"
4.		Loop	600KC	"	600KC	"	A8	Rock tuning gang while adjusting A8 for maximum output.
5.	3ft. of wire	Connect high side of generator to 3ft. of wire placed approximately 1ft. from extended whip antenna. Low side not connected.	7.8MC	4-8MC (second button from bottom.)	7.8MC	"	A9, A10 A11	Adjust for maximum output.
6.	"	"	4.2MC	"	4.2MC	"	A12	Rock tuning gang while adjusting A12 for maximum output. Repeat steps 5 and 6.
7.	"	"	3.9MC	2-4MC (third button from bottom)	3.9MC	"	A13, A14, A15	Adjust for maximum output.
8.	"	"	2.1MC	"	2.1MC	"	A16	Rock tuning gang while adjusting A16 for maximum output. Repeat steps 7 and 8.
9.	"	"	17.8MC	16M (fourth button from bottom)	17.8MC	Across voice coil.	A17, A18 A19	Rock tuning gang while adjusting each adjustment for maximum output.
10.	"	"	15.2MC	19M (third button from top)	15.2MC	"	A20, A21 A22	"
11.	"	"	11.8MC	25M (second button from top)	11.8MC	"	A23, A24 A25	"
12.	"	"	9.6MC	31M (top button)	9.6MC	"	A26, A27 A28	"

When it's 8 p. m. today

in Chicago...

it's 7:30 a. m. tomorrow

in Bombay

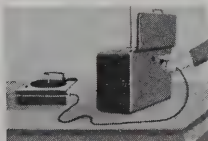


New "Dial-O-Map" feature on Zenith Trans-Oceanic calculates time anywhere!

Tune in the world with this latest version of the world's only 14 year proved shortwave portable radio. Its list of owners reads like an international "Who's Who." Its list of features includes patented detachable Wavemagnet® antenna, exclusive Radiorgan® tone control, tropic treated against high humidity, Patented pop-up Waverod® antenna, voltmatic regulator, battery saver switch, spread band tuning, push-button band selectors.

Now Zenith has added a rotating directional feature to the Wavemagnet® antenna and two other new "extra service" features to help your new Trans-Oceanic serve you better:

"DIAL-O-MAP". (Shown above.) In log chart compartment. Set disc for time where you are listening—see at a glance correct time in principal spots around the world.



PHONO-JACK. Plug in your record player, and use the TRANS-OCEANIC's powerful and sensitive Zenith-built speaker to enjoy your favorite records.

The TRANS-OCEANIC shown is in durable Black Stag, model R600, \$139.95*. It is also available in luxurious top-grain cowhide, model R600L, at \$159.95*. Operates on AC/DC or battery.



the royalty of RADIO and television

Backed by 36 years of Leadership in Radionics Exclusively

ALSO MAKERS OF FINE HEARING AIDS

ZENITH RADIO CORPORATION • CHICAGO 39, ILLINOIS

*Manufacturer's suggested retail price not including batteries.
 Slightly higher in far West and South.

Mention the National Ge

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT						
To set pointer, turn tuning capacitor fully closed and set pointer, parallel with base of dial. Use battery power, if possible. If AC power is used, use an isolation transformer when available. If not, connect a .1MFD capacitor in series with one side of the signal generator and B+. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an isolated alignment screwdriver for adjusting.						
ITEM No.	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER
1.	1MFD	High side to pin 6, (Grid), or L6, (V2). Low side to B+.	455KC (400 Mod.)	BC	600KC	Across voice coil.
2.		Loop	1800KC	"	1800KC	"
3.		Loop	1400KC	"	1400KC	"
4.		Loop	600KC	"	600KC	"
5.	Str. of wire	Connect high side of generator to str. of wire placed approximately 1/4 inch from extended whip antenna. Low side not connected second	7.8MC	4-8MC (second button from bottom)	7.8MC	"
6.			4.2MC	"	4.2MC	"
7.			3.9MC	2-8MC (third button from bottom)	3.9MC	"
8.			2.1MC	"	2.1MC	"
9.			17.6MC	18M (fourth button from bottom)	17.6MC	Across voice coil.
10.			15.2MC	18M (third button from top)	15.2MC	"
11.			11.6MC	25M (second button from top)	11.6MC	"
12.			9.6MC	21M (top button)	9.6MC	"
REMARKS						
Adjust for maximum output. If AC power is used without an isolation transformer, reduce dummy antenna to 200MMF to reduce hum modulation.						
Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.						
Rock tuning gang while adjusting A8 for maximum output.						
Adjust for maximum output.						
Rock tuning gang while adjusting A12 for maximum output. Repeat steps 5 and 6.						
Adjust for maximum output.						
Rock tuning gang while adjusting A16 for maximum output. Repeat steps 7 and 8.						
Rock tuning gang while adjusting each adjustment for maximum output.						
Across voice coil.						
Adjust for maximum output.						
Across voice coil.						
Adjust for maximum output.						
Across voice coil.						
Adjust for maximum output.						

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

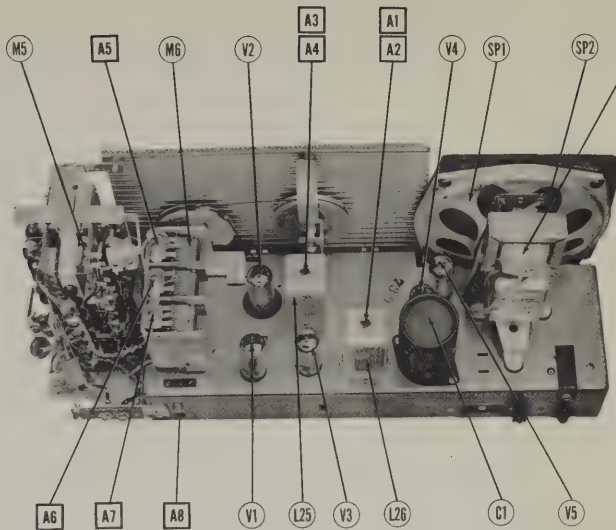
ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
V1	6X4	6X4	6AR	
V2	6X4	6X4	6AR	
V3	6X4	6X4	6AR	
V4	6X4	6X4	6AR	
V5	6X4	6X4	6AR	

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
V1	6X4	6X4	6AR	
V2	6X4	6X4	6AR	
V3	6X4	6X4	6AR	
V4	6X4	6X4	6AR	
V5	6X4	6X4	6AR	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING	RESISTANCE	WATTS	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	RATING	RESISTANCE	WATTS	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
R1	1/2 W	100K	1/2	100K	100K	100K	
R2	1/2 W	100K	1/2	100K	100K	100K	
R3	1/2 W	100K	1/2	100K	100K	100K	
R4	1/2 W	100K	1/2	100K	100K	100K	
R5	1/2 W	100K	1/2	100K	100K	100K	
R6	1/2 W	100K	1/2	100K	100K	100K	
R7	1/2 W	100K	1/2	100K	100K	100K	
R8	1/2 W	100K	1/2	100K	100K	100K	
R9	1/2 W	100K	1/2	100K	100K	100K	
R10	1/2 W	100K	1/2	100K	100K	100K	
R11	1/2 W	100K	1/2	100K	100K	100K	
R12	1/2 W	100K	1/2	100K	100K	100K	
R13	1/2 W	100K	1/2	100K	100K	100K	
R14	1/2 W	100K	1/2	100K	100K	100K	
R15	1/2 W	100K	1/2	100K	100K	100K	
R16	1/2 W	100K	1/2	100K	100K	100K	
R17	1/2 W	100K	1/2	100K	100K	100K	
R18	1/2 W	100K	1/2	100K	100K	100K	
R19	1/2 W	100K	1/2	100K	100K	100K	
R20	1/2 W	100K	1/2	100K	100K	100K	
R21	1/2 W	100K	1/2	100K	100K	100K	
R22	1/2 W	100K	1/2	100K	100K	100K	
R23	1/2 W	100K	1/2	100K	100K	100K	
R24	1/2 W	100K	1/2	100K	100K	100K	
R25	1/2 W	100K	1/2	100K	100K	100K	
R26	1/2 W	100K	1/2	100K	100K	100K	
R27	1/2 W	100K	1/2	100K	100K	100K	
R28	1/2 W	100K	1/2	100K	100K	100K	
R29	1/2 W	100K	1/2	100K	100K	100K	
R30	1/2 W	100K	1/2	100K	100K	100K	
R31	1/2 W	100K	1/2	100K	100K	100K	
R32	1/2 W	100K	1/2	100K	100K	100K	
R33	1/2 W	100K	1/2	100K	100K	100K	
R34	1/2 W	100K	1/2	100K	100K	100K	
R35	1/2 W	100K	1/2	100K	100K	100K	
R36	1/2 W	100K	1/2	100K	100K	100K	
R37	1/2 W	100K	1/2	100K	100K	100K	

PARTS LIST AND DESCRIPTIONS (Continued)

R. F. COILS

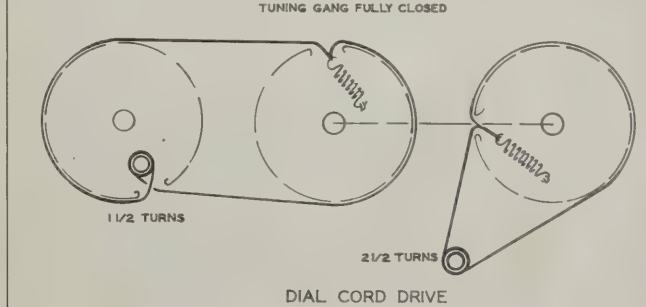
ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
R1	100K	100K	100K	
R2	100K	100K	100K	
R3	100K	100K	100K	
R4	100K	100K	100K	
R5	100K	100K	100K	
R6	100K	100K	100K	
R7	100K	100K	100K	
R8	100K	100K	100K	
R9	100K	100K	100K	
R10	100K	100K	100K	
R11	100K	100K	100K	
R12	100K	100K	100K	
R13	100K	100K	100K	
R14	100K	100K	100K	
R15	100K	100K	100K	
R16	100K	100K	100K	
R17	100K	100K	100K	
R18	100K	100K	100K	
R19	100K	100K	100K	
R20	100K	100K	100K	
R21	100K	100K	100K	
R22	100K	100K	100K	
R23	100K	100K	100K	
R24	100K	100K	100K	
R25	100K	100K	100K	
R26	100K	100K	100K	
R27	100K	100K	100K	
R28	100K	100K	100K	
R29	100K	100K	100K	
R30	100K	100K	100K	
R31	100K	100K	100K	
R32	100K	100K	100K	
R33	100K	100K	100K	
R34	100K	100K	100K	
R35	100K	100K	100K	
R36	100K	100K	100K	
R37	100K	100K	100K	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	RATING	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
T1	1/2 W	100K	100K	100K	

SPEAKER

ITEM No.	RATING	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
ITEM No.	RATING	REPLACEMENT DATA	STANDARD	BASE TYPE	INSTALLATION NOTES
S1	1/2 W	100K	100K	100K	



PHOTOFACT* Folder

ZENITH
MODEL H500 (Ch. 5H40)

VOLUME CONTROL ON-OFF SWITCH

TREBLE TONE SWITCH

VOICE TONE SWITCH

ALTO TONE SWITCH

BASS TONE SWITCH

TUNING CONTROL

BROADCAST

TRADE NAME Zenith, Model H500 (Ch. 5H40)

MANUFACTURER Zenith Radio Corp., 6001 Division Ave., Chicago, Illinois

TYPE SET Three Power Operated Multi-Band Superhetrodyne Receiver with Loop Antenna

TUBES (FIVE) Types 1U4 RF Amp., 1L6 Converter, 1U4 IF Amp., 1U5 DET.-AVC-AF, 3V4 Power Output

POWER SUPPLY 110-120 Volts AC-DC or 9 Volts "A" Supply and 90 Volts "B" Supply on Pack Form

RATING .15 Amp. at 117 Volts AC or 70MA at 9 Volts DC and 20MA at 90 Volts DC

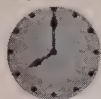
TUNING RANGE—BROADCAST 540-1600KC SHORT WAVE #1 4-8MC, #2 2-4MC, #3 17.4-18.2MC, #4 14.8-15.6MC, #5 11.2-12.1MC, #6 9.4-9.8MC

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

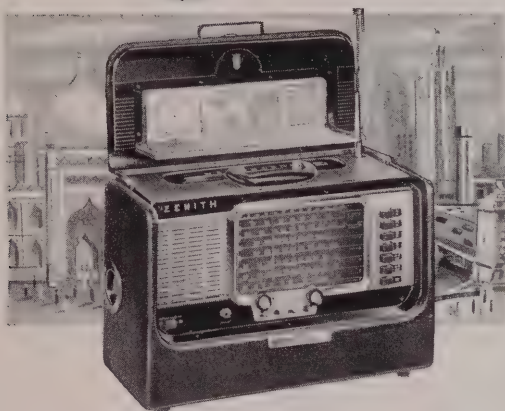
"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

"Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1951 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. of America. Copyright under International Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

**When it's 8 p. m. today
in Chicago...**



**it's 7:30 a. m. tomorrow
in Bombay**

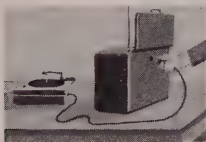


**New "Dial-O-Map" feature on Zenith
Trans-Oceanic calculates time anywhere!**

Tune in the world with this latest version of the world's only 14 year proved shortwave portable radio. Its list of owners reads like an international "Who's Who." Its list of features includes patented detachable Wavemagnet® antenna, exclusive Radiorgan® tone control, tropic treated against high humidity, Patented pop-up Waverod® antenna, voltmatic regulator, battery saver switch, spread band tuning, push-button band selectors.

Now Zenith has added a rotating directional feature to the Wavemagnet® antenna and two other new "extra service" features to help your new Trans-Oceanic serve you better:

"DIAL-O-MAP". (Shown above.) In log chart compartment. Set disc for time where you are listening—see at a glance correct time in principal spots around the world.



PHONO-JACK. Plug in your record player, and use the TRANS-OCEANIC's powerful and sensitive Zenith-built speaker to enjoy your favorite records.

The TRANS-OCEANIC shown is in durable Black Stag, model R600, \$139.95*. It is also available in luxurious top-grain cowhide, model R600L, at \$159.95*. Operates on AC/DC or battery.



the royalty of RADIO and television

Backed by 36 years of Leadership in Radionics Exclusively

ALSO MAKERS OF FINE HEARING AIDS

ZENITH RADIO CORPORATION • CHICAGO 39, ILLINOIS

*Manufacturer's suggested retail price not including batteries.
Slightly higher in far West and South.

Mention the National Ge

Don't wonder

Don't worry



*Call today
and be sure*

LONG DISTANCE RATES ARE LOW

Here are some examples:

Cleveland to Pittsburgh	45¢
Boston to Philadelphia	70¢
Dallas to New Orleans	95¢
New York to Atlanta	\$1.20
San Francisco to Chicago	\$1.75

These are the Station-to-Station rates for the first three minutes, after 6 o'clock every night and all day Sunday. They do not include the 10% federal excise tax.

CALL BY NUMBER. IT'S TWICE AS FAST.

BELL TELEPHONE SYSTEM

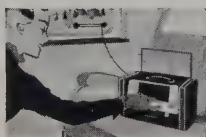


phic—It identifies you



3 built-in antennas: Push-Button short-wave antenna extends to 4 ft. Large built-in AM antenna. Special AM antenna for planes, trains, etc.

NEW RCA VICTOR "STRATO-WORLD" RADIO



Built to travel and play *anywhere!* Has rugged aluminum chassis frame.



Get home broadcasts—strong and clear! Plays on AC, DC or battery.



Famous "Golden Throat" tone. Special switch for low line-voltage areas.



"Climatized" against heat, cold and humidity. Spare tubes storage rack, too!

*the sensational new 7-band portable radio
—powered to pick up the world!*

Tunes Europe and Asia like local broadcasts! Features true —*Electrical Band Spread Tuning*—automatically separates short-wave stations usually crowded together on the dial. Brings you world events, local programs—*wherever you are!*

It's luggage luxury! In genuine top-grain cowhide leather, instrument panel in satin-chromed metal. Perfect for Christmas—*now* at your RCA Victor dealer's. Model 3BX671, \$139.95 (less batteries).

Get RCA Batteries—radio-engineered for extra listening hours.



RCA VICTOR
Tmks ®



Suggested Eastern list price, subject to change

DIVISION OF RADIO CORPORATION OF AMERICA

Mention the National Geographic—It identifies you

So many men and women have requested copies of Peggy's heartwarming letter to her husband Jim that we republish it again this Christmas.

To Jim -

**for holding my hand
tight the day we
were married...**

for seldom remarking, "That's what I had for lunch."

for sparing me those chilly trips to heat the 6 a.m. bottle.

for never opening my mail (though I sometimes do yours!).

for the things you didn't say the time I ripped off the fender.

for balancing my checkbook without grumbling or pitying.

for not having to be defrosted when I forget to send your suit to be pressed.

for treating my women friends as though you liked them.

for the way your eyes light up when our glances happen to meet at a party.

for being so eternally there for me to lean on!

for wanting a good watch for years and years, but being too unselfish to go and spend the money on yourself.

Dearest, here's your Hamilton with all my love!

Peggy



For Christmas...it means so much more to give...or get...a

Hamilton



Townsend. 19 jewels, natural gold-filled case, alligator strap. \$71.50

Warwick. 18 jewels, sweep-second, 14K natural gold case, alligator strap. \$150.00

Astrid. 17 jewels, 14K natural gold case, with matching bracelet. \$150.00

Lisette. 17 jewels, 10K natural or white gold case, silk cord. \$71.50

Also see the new Illinois watches—styled and guaranteed by Hamilton—priced from \$33.95

© Hamilton Watch Company, Lancaster, Pa.

Prices include Federal Tax

Mention the National Geographic—It identifies you

Explore the World

WITH **ZENITH** SHORT WAVE RADIO

...the radio of explorers



**PIONEERED AND PROVED IN THE ARCTIC
BY FAMED EXPLORER ADMIRAL DONALD B. MacMILLAN**

Zenith's new super deluxe Trans-Oceanic® Portable Radio

Zenith Short Wave was first used in the Arctic in 1923, during the historic polar Expedition of Admiral (then Commander) Donald B. MacMillan. The Zenith Short Wave equipment carried by this Expedition enabled it to be the *first* in the Arctic to keep in constant contact with the outside world!

Again, two years later—while less than 12 degrees from the North Pole—the MacMillan National Geographic Arctic Expedition transmitted voice by Zenith Short Wave radio to the cruiser U.S.S. Seattle, sailing off Tasmania on the other side of the earth! From these pioneer Short Wave experiments, Zenith developed the first *practical* portable Short Wave radio!

You, too, can tune in the world with the Zenith TRANS-OCEANIC portable radio, or get the best long distance domestic reception on standard broadcast! Also covers international Short Wave bands, marine, weather and amateur Short Wave coverage bands, plus ship-to-ship and ship-to-shore reception. Students can tune in foreign lands and learn languages *as they are actually spoken!*

This fabulous Short and Standard Wave TRANS-OCEANIC radio operates on ships, trains, planes and in steel buildings. Tropically treated against high humidity to prevent loss of sensitivity. AC/DC or battery operated. In black stag, \$139.95*; brown cowhide, \$159.95*.

IMPORTANT! A Zenith battery-operated portable is as necessary in your home as a flashlight in case of power failure caused by air raid or other emergency!

ONLY **ZENITH** BUILDS **ZENITH** QUALITY



The Royalty of RADIO and Television®

Backed by 36 years of leadership in radionics exclusively

ALSO MAKERS OF FINE HEARING AIDS
Zenith Radio Corporation, Chicago 39, Ill.

*Manufacturer's suggested retail price not including batteries. Slightly higher in Far West and South

THE PERFECT GIFT

FOR THE STUDENT . . .

FOR THE ENTIRE FAMILY

WANTED BY STUDENTS! Surveys prove that boys and girls who use typewriters get up to 38% higher grades — are better prepared for success after graduation. No other portable can match the Quiet-riter for speedy, accurate typing.

USED BY THE ENTIRE FAMILY... because the sturdy modern Remington Quiet-riter has every feature needed to make writing a pleasure instead of a chore... whether it's club notes, social correspondence

or business work at home!

Start your Christmas shopping by visiting your local Remington dealer today! See the Exclusive Miracle Tab, that sets and clears tab stops right from the keyboard with just a flick of the finger and all the other features of the Remington Quiet-riter. A demonstration will convince you that when you give the Remington Quiet-riter, you are giving the finest portable on the market... a portable type-

writer that is unmatched for convenience, speed and durability! Carrying Case, Touch Method Book included.

The New Remington Quiet-riter

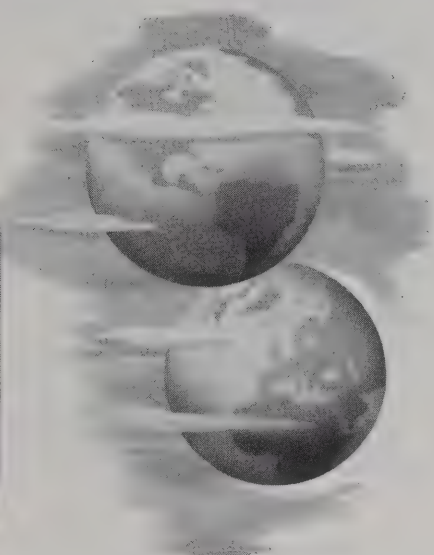
**SMALL DOWN PAYMENT PUTS IT
IN YOUR HOME CHRISTMAS. PAY
NOTHING MORE UNTIL FEBRUARY
AND THEN AS LITTLE AS \$1 A WEEK.**



A PRODUCT OF **Remington Rand** DIVISION OF SPERRY RAND CORPORATION

Mention the National Geographic—It identifies you

No Other Radio like this in all the World!



NEW ZENITH Super Trans-Oceanic

The Portable with Amazing 4-Way Reception

1 NEW! Trans-World Short Wave. Opens up the world as never before, with wider range of reception from more countries, more stations . . . across oceans, continents!

2 NEW! Marine and Weather Short Wave. Tunes in ship-to-ship and ship-to-shore phone conversations, instructions. Official weather bulletins. Amateur stations.

3 NEW! Two Continuous Tuning Bands. Give complete coverage from 38 through 75 meters, and 75 through 150 meters (2 to 8 MC). Covers 49 meter band, provides added listening thrills for "distance" fans!

4 PLUS Trans-Continental Standard Reception. Pulls in stations across the whole nation—even from places where other portables fail—in planes, trains, ships, remote spots, steel buildings.

There's only *one* way to get this astonishing performance! That's by owning a Zenith® Super Trans-Oceanic—choice of business leaders, sportsmen, world travelers. Carry it easily, proudly, wherever you go. Treat yourself to an exciting demonstration at your Zenith dealer's—today!

Smart Black Stag and Silver Grey Case.
Works on Battery, AC, DC
Cabinet styled by Robert Davol Budlong

©1951



Zenith Radio Corporation, Chicago 39, Ill. • Over 30 Years of "Know-How" in Radionics® Exclusively • Also Makers of Fine Hearing Aids

Mention the National Geographic—It identifies you



EXPRESSIVE ART
in stone
or in music
LIVES FOREVER

The inspired art of Beethoven gave
to the world his famed Fifth Symphony,
an immortal creation in Music.

Creative art in lasting granite
finds its highest interpretation
in the memorial masterpieces
feelingly executed by a famous
community of designers and
craftsmen-in-stone at Barre,
Vermont. Each authentic monument, rendered
in Select Barre Granite, is identified by the
etched-in BARRE GUILD seal.

There is a BARRE GUILD dealer near you.
Plan now for a cemetery plot and a monument
of lasting beauty *before* the need arises.

BARRE GUILD, BARRE 61, VERMONT

FREE BOOKLET—Write for "Monu-
ment Ideas" for preliminary guidance on
designs, types, sizes, and for the appealing
story of Barre Granite.



Monuments

"Mark of the Masters"

TIMELY MAPS

Map Case—Map Indexes

NATIONAL Geographic Society's *ten-color* maps are published as one of The Society's services to its members and the general public. Together with the accompanying Map Indexes, they make a timely world atlas and gazetteer. Because The Society's spelling is followed by major press associations, place names in the news are easily found on these legible, large-scale charts • **MAP INDEXES**, available for maps marked with an asterisk (*) in the order blank below, make easy the location of names on corresponding maps and describe the areas covered • **MAP CASE**: bound like a book, 7 $\frac{3}{4}$ x 10 $\frac{3}{4}$ inches, the ten pockets of this case will hold 20 *folded paper maps* or 10 *paper maps* with indexes.

National Geographic Society
Dept. E-Y, Washington 6, D. C. 1951
Please send me items indicated below:

● These ten-color maps come on either paper or linen. *Indexes are available for maps marked with asterisk. * All items are sent postage prepaid.	How Many Copies Desired		
	Paper Maps 50c each in U.S. & Poss. Elsewhere 75c each	Linen Maps \$1 each in U.S. & Poss. Elsewhere \$1.25 each	Indexes 25c each in U.S. & Poss. Elsewhere 50c each
Africa and Arabian Penin.*			
Asia and Adjacent Areas*			
Atlantic Ocean			X
Australia*			
Bible Lands*		X	
British Isles*			
Canada, Alaska, Greenland *			
China*			
Classical Lands of Medit.*			
Countries of the Caribbean* (Mex., Cen. Am., & West Indies)			
E. & W. Hemispheres			X
Europe and Near East*			
Western Europe*			
Central Europe & Medit.*			
Germany & Approaches*			
India & Burma*			
Indian Ocean			X
Japan & Adjacent Regions of Asia & Pacific Ocean*	X		
Japan & Korea in detail*			
North America*			
No. & So. Hemispheres*			
Pacific & Bay of Bengal*			
Pacific Ocean* (With 73 Island Insets.)		X	
Philippines*			
South America*			
Southeast Asia*			
Top of the World* (Arctic)			
The World*		X	
U.S.S.R. (Russia)*			
United States*			
Pocket Map of Central & Suburban Wash., D. C.			Index printed on Map
North Central U. S.*			
Northeast United States*			
Northwest United States*			
South Central U. S.*			
Southeast United States*			
Southwest United States*			

X in columns above indicates that the respective paper map, linen map, or index is NOT available. Paper maps come *folded*. Linen maps come *rolled*.

Also.....copies Map Case, \$2.50 in U. S. & Poss.; elsewhere, \$2.75.

I enclose remittance of \$.....payable in U. S. funds.
(WRITE NAME AND ADDRESS IN MARGIN BELOW)

Announcing the New Zenith Super Deluxe TRANS-OCEANIC Portable

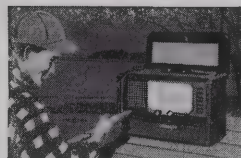
**7 NEW features
added to the
World's only
13 year proved
Shortwave
Portable Radio**



1. New Powerized Detachable Wavemagnet® Antenna ... plus powerful new circuits increase sensitivity on the standard broadcast band up to ... three times!



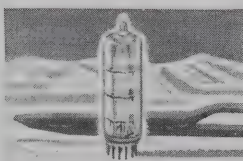
2. New International Tuning Dial permits far easier reading! Simplifies locating and tuning stations all over the world on shortwave or standard broadcast bands.



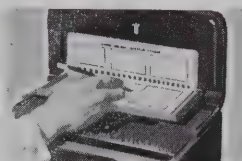
3. New Spring-Button Dialite illuminates entire face of dial. You can easily tune in your station in pitch darkness. Automatic release avoids excessive battery drain.



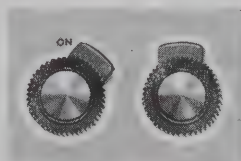
4. New Reelaway Power Cord reels out from side of case. Plugs in for AC or DC power. Springs back when not in use, readying set for battery operation.



5. New Voltmatic Regulator automatically maintains constant power flow through set, regardless of fluctuations at power source. Extends tube life!



6. New Log-Chart Compartment includes 24 pages full of complete weather and marine information. Lists data about all major short-wave stations in the world.



7. New On-Off Indicator further guards against excess battery drain ... provides extra safety check against power loss when set is not in use.

ZENITH SUPER DELUXE TRANS-OCEANIC RADIO



Model shown in durable Black Stag, \$139.95*. Also available in luxurious top-grain cowhide at additional cost.

Zenith POWERIZED Features!

- Tropically treated against humidity, to prevent loss of sensitivity. AC, DC or long-life batteries.
- Long Distance Chassis brings you programs from dozens of different countries.
- Super-sensitive electrical spread-band tuning ... brings you ship-to-ship conversations, marine and weather reports, amateur broadcasts, popular programs from all over U. S.
- Exclusive Radiorgan® Tone Control gives you choice of 16 different tonal combinations.

One of these battery-operated portables is as necessary in your home as a flashlight in case of power failure caused by air raid or other emergency.

ASK ANY ZENITH OWNER!

ZENITH 
The royalty of television and **RADIO**

Backed by 35 years of Leadership in
Radionics Exclusively

ALSO MAKERS OF FINE HEARING AIDS
Zenith Radio Corporation, Chicago 39, Illinois

*Manufacturer's suggested retail price (subject to change) not including batteries. Slightly higher in Far West and South.

COPR. 1954

Mention the National Geographic—It identifies you



COMING TO
Canada
THIS YEAR?

TRAVEL ON ROAD TESTED TRAVEL ROUTES

If you're planning a motor trip to Canada, let British American Oil help you with its free Travel Bureau advice on tested travel routes. The 7000 friendly dealers of this large, nation-wide oil company will welcome you with courteous station service. They'll speed you on your way with quality petroleum products and helpful tourist information.

Clip this coupon
for complete
routing details.

BRITISH AMERICAN OIL
Company, Limited



B-A Travel Service Bureau
British American Oil Bldg.
College at Bay St., Toronto, Canada.

Please send me complete free information on my trip:

Starting Point.....
Destination.....
Name.....
Address.....
City.....State.....



A LOW-COST VACATION TREAT
CRUISES
THROUGH FASCINATING FRENCH

Canada

See cosmopolitan Montreal . . . quaint Quebec . . . old costumes and customs . . . Ste. Anne de Beaupré . . . and for contrast, the Manoir Richelieu at smart Murray Bay . . . and friendly Tadoussac.

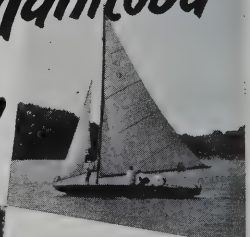
Low-cost, independent or all-expense Cruise Tours from 3 to 8 days from \$65.00. Enjoy gay cruise life, too, with superb food and service and congenial companions.

See your Travel Agent, Railroad Ticket Agent, or

CANADA STEAMSHIP LINES

Boston • Chicago • Detroit • New York • Philadelphia
Toronto, Ont. • Quebec, P. Q. • Montreal

IN CANADA—*for your* **Manitoba**
**UNSPOILED
VACATION!**



Unspoiled Manitoba holds new vacation adventures for all. Sports, scenery, contrast—from rugged northland to restful beaches.

Preview your Manitoba vacation in the 40 color-packed pages of your free vacation guide! Send the coupon for your copy today!

Bureau of Travel and Publicity
23 Legislative Building
Winnipeg, Manitoba, Canada

Name.....
Street.....
City.....State.....

16-54

INSIDE THE RIM OF ADVENTURE!



Our whole state invites you to vacation in Wisconsin, long famous for hospitality. Here's the place for all the family, where your vacation money goes furthest, where you'll find a little of all the world, a fun-and-sun spot that Nature made famous.



Bucky, the lucky Badger, invites you to write for Wisconsin's free vacation kit.

WISCONSIN CONSERVATION DEPARTMENT
State Office Bldg., Room 75
Madison 1, Wisconsin

Please send me complete Wisconsin vacation kit including new book in color, maps, fishing regulations, and sources of additional regional information.

Name _____

Address _____

City _____ Zone _____ State _____



All-the-West Vacations ON THE **GREATEST WESTERN FLEET**



Such fine trains as the CITY OF SAN FRANCISCO, CITY OF LOS ANGELES and the Super Dome Olympian HIAWATHA. Surprisingly low round trip fares. Fine food, friendly service. Go one way, return another.

Free Planning Help

- ① **COLORADO ROCKIES**—Denver—Rocky Mt. Nat. Park—Estes Park—Colorado Springs—Pikes Peak—Garden of the Gods.
- ② **SALT LAKE CITY**—Mormon Capital. Arizona-Utah Parks: Zion—Bryce Canyon—Cedar Breaks—Grand Canyon north rim.
- ③ **CALIFORNIA-NEVADA**—Los Angeles—San Diego—Hollywood—Santa Barbara. San Francisco—Del Monte—Monterey—Yosemite—Reno—Lake Tahoe. Las Vegas' famous "strip"—Hoover Dam.
- ④ **YELLOWSTONE PARK**—geysers—great waterfalls, colorful canyon—wild life—Grand Teton Park.
- ⑤ **PACIFIC NORTHWEST**—Seattle-Tacoma—Puget Sound—Olympic National Park—Mt. Rainier in Washington. Portland—Columbia River—Mt. Hood—Crater Lake in Oregon.
- ⑥ **SUN VALLEY**—all-year resort.
- ⑦ **DUDE RANCHES**—Rockies or High Sierra.
- ⑧ **ESCORTED TOURS**—anywhere West.

H. Sengstacken, The Milwaukee Road
801 Union Station, Chicago 6, Ill.

I am interested in vacations 1 2 3 4 5 6 7 8 (circle choices). Please send free vacation planning literature.

Name _____

Address _____

City _____ Zone _____ State _____

THE MILWAUKEE ROAD



The schooner "Constellation"
—Class A winner in the 1955
Trans-Pacific Yacht Race.

It's a sailor's radio!

If it's good for a sailor, it's good for everyone...
there's no place wetter than the ocean!

Zenith **TRANS-OCEANIC**® Short Wave Radio keeps "Constellation" in touch with world during historic ocean race!

ZENITH Short Wave radio wrote yachting history last July when it sped across the Pacific from Los Angeles to Honolulu aboard the fastest Class A schooner in the 1955 Trans-Pacific Yacht Race!

Frank Hooykaas, owner-skipper of the 75-foot "Constellation," used his Zenith TRANS-OCEANIC portable radio constantly to tune in network broadcasts from the U. S. and Hawaii, and to take precise radio bearings when approaching the island of Oahu.

You, too, can tune in the world with the Zenith TRANS-OCEANIC portable radio, or get the best long distance domestic reception on standard broadcast! It also covers international Short Wave bands; marine, weather and amateur Short Wave coverage bands; plus ship-to-ship and ship-to-shore reception. Students can tune in foreign lands and learn languages as they are *actually spoken!*

This 15-year-proved Short and Standard Wave radio operates on ships, trains, planes and in steel buildings. Tropically treated against high humidity to prevent loss of sensitivity. AC/DC or battery operated. In black stag, \$139.95*; brown cowhide, \$159.95*.

IMPORTANT! A Zenith battery-operated portable is as necessary in your home as a flashlight in case of power failure caused by air raid or other emergency!



Skipper Frank Hooykaas (second from left) and crew listen to vital weather information on their Zenith Trans-Oceanic Radio. Since radio is equipped with an earphone jack, it can be played without disturbing sleeping crew members.



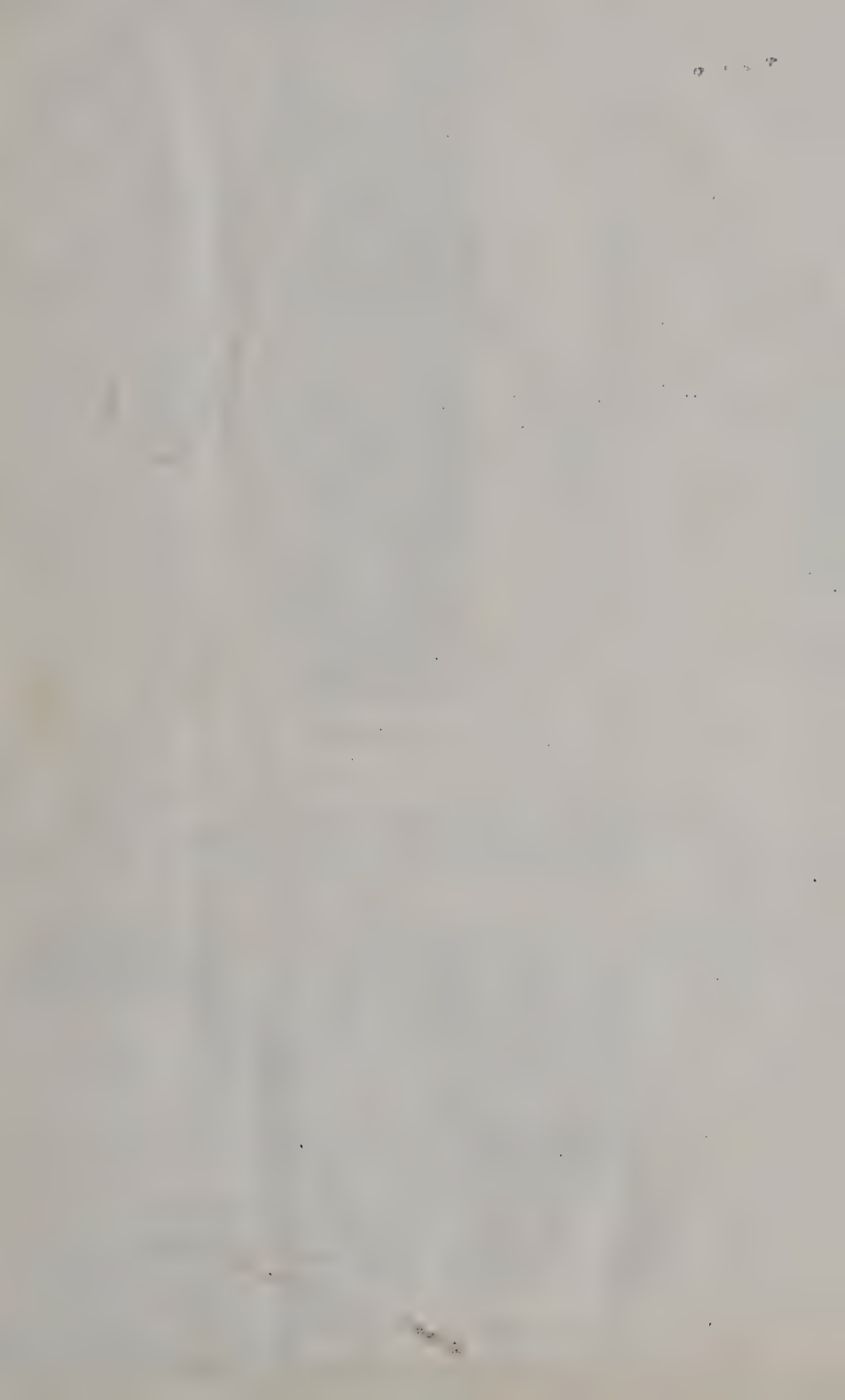
THE QUALITY GOES IN
BEFORE THE NAME GOES ON



The Royalty of RADIO and Television®

Backed by 37 years of leadership in radionics exclusively
ALSO MAKERS OF FINE HEARING AIDS
Zenith Radio Corporation, Chicago 39, Illinois

**Manufacturer's suggested retail price not including batteries. Slightly higher in Far West and South.
Prices and specifications subject to change without notice.*





The schooner "Constellation"
—Class A winner in the 1955
Trans-Pacific Yacht Race.



It's a sailor's radio!

If it's good for a sailor, it's good for everyone...
there's no place wetter than the ocean!

Zenith **TRANS-OCEANIC**® Short Wave Radio keeps "Constellation" in touch with world during historic ocean race!

ZENITH Short Wave radio wrote yachting history last July when it sped across the Pacific from Los Angeles to Honolulu aboard the fastest Class A schooner in the 1955 Trans-Pacific Yacht Race!

Frank Hooykaas, owner-skipper of the 75-foot "Constellation," used his Zenith TRANS-OCEANIC portable radio constantly to tune in network broadcasts from the U. S. and Hawaii, and to take precise radio bearings when approaching the island of Oahu.

You, too, can tune in the world with the Zenith TRANS-OCEANIC portable radio, or get the best long distance domestic reception on standard broadcast! It also covers international Short Wave bands; marine, weather and amateur Short Wave coverage bands; plus ship-to-ship and ship-to-shore reception. Students can tune in foreign lands and learn languages as they are *actually spoken!*

This 15-year-proved Short and Standard Wave radio operates on ships, trains, planes and in steel buildings. Tropically treated against high humidity to prevent loss of sensitivity. AC/DC or battery operated. In black tag, \$139.95*; brown cowhide, \$159.95*.

IMPORTANT! A Zenith battery-operated portable is as necessary in your home as a flashlight in case of power failure caused by air raid or other emergency!



Skipper Frank Hooykaas (second from left) and crew listen to vital weather information on their Zenith Trans-Oceanic Radio. Since radio is equipped with an earphone jack, it can be played without disturbing sleeping crew members.

ZENITH

THE QUALITY GOES IN
BEFORE THE NAME GOES ON



The Royalty of RADIO and Television®

Backed by 37 years of leadership in radionics exclusively
ALSO MAKERS OF FINE HEARING AIDS
Zenith Radio Corporation, Chicago 39, Illinois

**Manufacturer's suggested retail price not including batteries. Slightly higher in Far West and South.
Prices and specifications subject to change without notice.*

[illegible]

TO THE SERVICE MAN:

Channel 6L40 features a high gain tuned RF stage ahead of a conventional superheterodyne circuit with band spread tuning on the 31, 25, 19 and 16 meter bands. There are two continuous covers bands, one covering 4-8 megacycles and one covering 4-8 megacycles.

If removal of the shafts from the cabinet ever becomes necessary this should be done with care.

The alignment of channels 4640 is conventional. However, care must be exercised when making adjustments, and the alignment procedure must be followed exactly. Set the chassis over a metal plate approximately the same distance the battery pack is from the bottom of the chassis when it is in the cabinet. This procedure will introduce the approximate amount of metal in the field of the TV and rectifier coils when the chassis is in the cabinet. A signal generator of reasonable accuracy and good distortion must be used. An output meter (AC) of the order of one millivolt per volt with a range of 1 to 30 volts is necessary to get accurate copier and rectifier type with a range of 1 to 30 volts in several steps is necessary to get accurate copier and rectifier type. Alignment wrenches should be of the non-magnetic type, especially when making adjustments at the higher frequencies.

When reinstalling the chassis in the cabinet be careful not to disturb the cabling between the short wave coil assembly and chassis. Tune in a weak broadcast signal near 1400 Kc. and check up indicator G2. This will insure satisfactory performance after alignment.

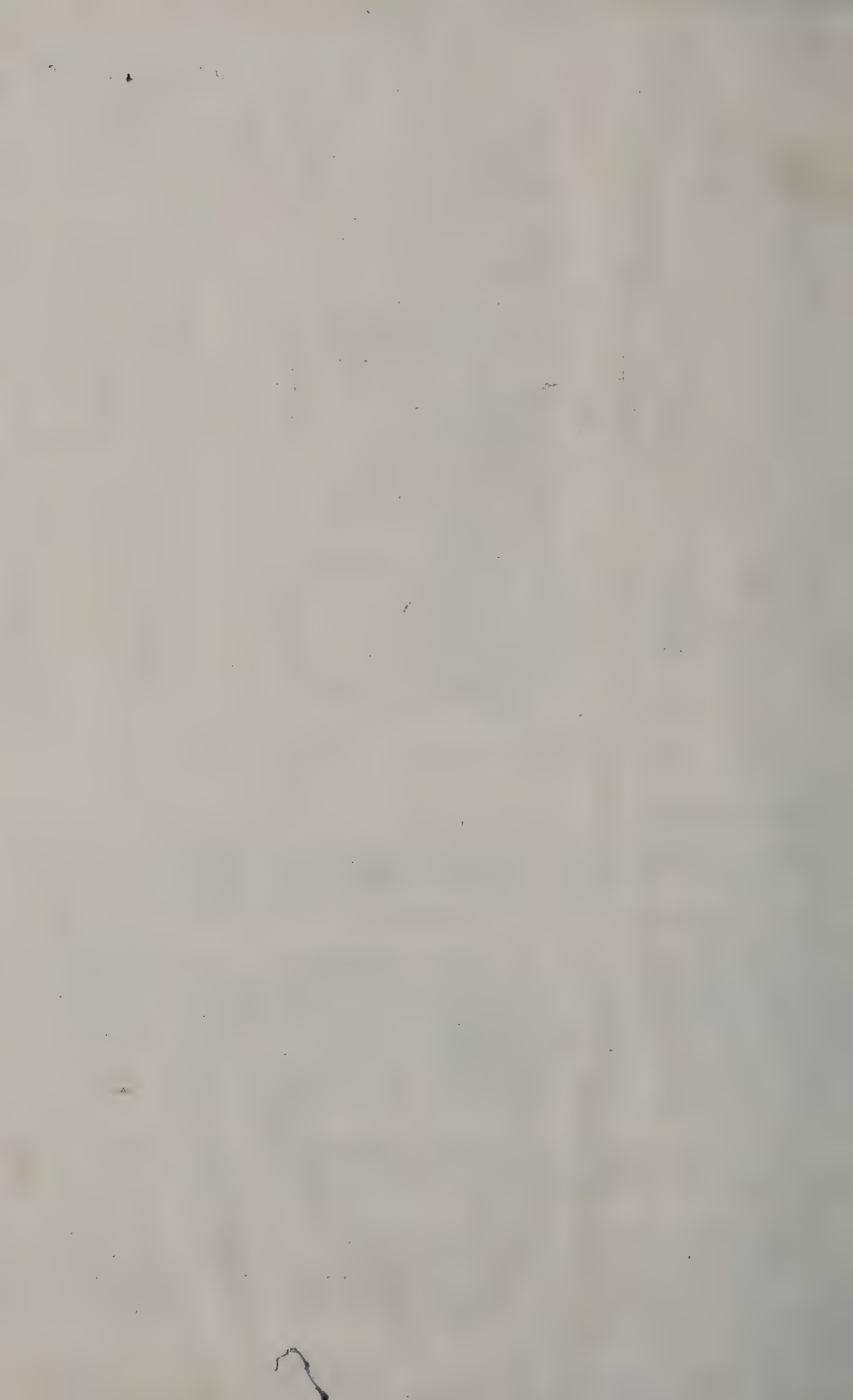
The L.F. transformers incorporated in this receiver are of the new permeability tuned type. The advantage of an L.F. transformer of this type is its extreme stability under various humidity and temperature conditions. The upper coil is the secondary and the lower the primary. When adjusting about L.F. transformers the tuning wrench 60-19 can be inserted into the top slug, rotated, and the secondary output is obtained and then dropped down to the lower slug and the same procedure is repeated. The tuning wrench is so designed that tuning one slug does not affect the other.

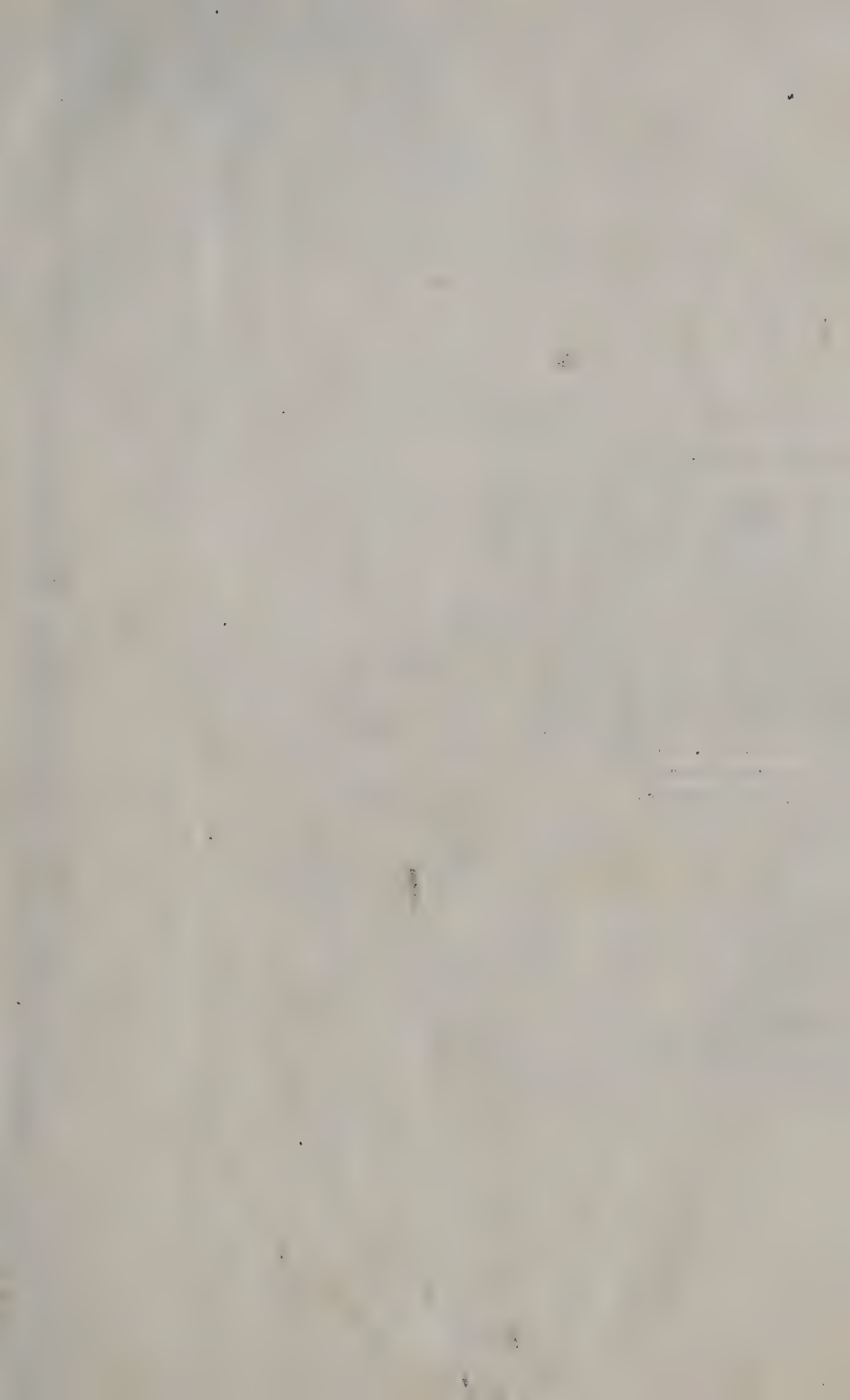
OPER.	CONNECT OSCILLATOR TO DUMMY ANTENNA	INPUT SIGNAL.	BAND	SET DIAL AT	TRIMMERS	PURPOSE
1	Positive lead of signal generator to converter grid through a .1 Mfd. condenser & negative lead to negative filament of 1L6 tube.	435 Kc	Mc	650 Kc	L5, 6, 7, 8	Align I.F.
2	One turn loop coupled loosely to broadcast wavemagnet	1600 Kc	BC	1600 Kc	C4	Set oscillator to scale
3		1400 Kc	BC	1400 Kc	C3	Alignment of selector
4		1400 Kc	BC	1400 Kc	C2	Alignment of B.C. antenna
5*		600 Kc	BC	600 Kc	Rock C16	Alignment of P.C. at 600
6		7.8 Mc	4-8 Mc	7.8 Mc	C31A, C36A, C37A	
7*		4.2 Mc	4-8 Mc	4.2 Mc	Rock L27	
8		Repeat Operations 6 & 7				
9		3.9 Mc	2-4 Mc	3.9 Mc	C33B, C36B, C37B	
10*		2.1 Mc	2-4 Mc	2.1 Mc	Rock L26	
11		Repeat Operation 9 & 10				
12		17.8 Mc	16 Meters	17.8 Mc	L24, L18, L12	
13*		15.2 Mc	19 Meters	15.2	L23, L17, L11	
14		11.8 Mc	25 Meters	11.8	L22, L16, L10	
15*		9.6 Mc	31 Meters	9.6 Mc	L21, L15, L9	

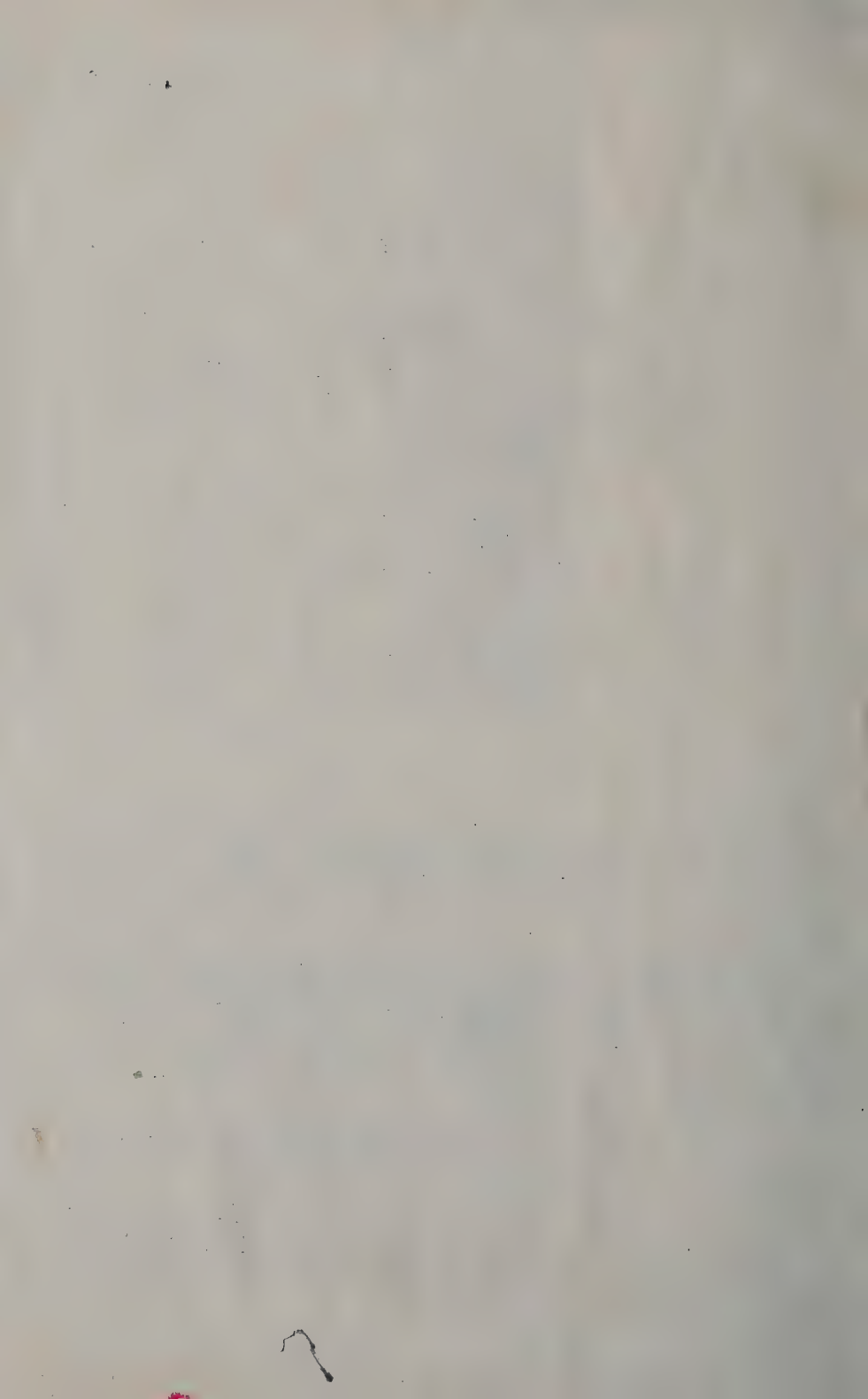
3 feet of wire approximately 1 foot from extended wave rod.

Note: Rock Turning Condenser When Making Alignment Under Operations 5,7,10,12,13,14 & 15

TUBE, TRIMMER LOCATION AND DIAL CALIBRATION







keeping the filament current of the vacuum tubes constant at 50 milliamperes we extend voltage range over which the set will operate from 90 to 130 volts and increase tube life definite amount.



ZENITH MODEL
L600 (Ch. 6L40)



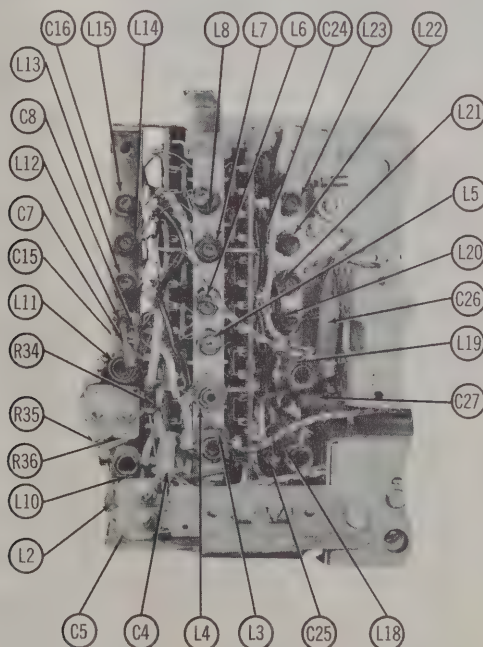
VOLUME
CONTROL
ON-OFF
SWITCH

TONE
SWITCH

TUNING
CONTROL

TRADE NAME	Zenith Model L600 (Ch. 6L40)		
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago, Ill.		
TYPE SET	Three Power Portable Mult-Band Superheterodyne Receiver		
TUBES (Five)	Types 1U4 RF Amp., 1L6 Conv., 1U4 IF Amp., 1U5 Det.-AVC-AF Amp., 3V4 Audio Output		
POWER SUPPLY	110-120 Volts AC-DC (or) 9 Volts "A" Supply & 90 Volts "B" Supply In Pack Form		
RATING	.13 Amp. @ 117 Volts AC (or) 75MA @ 9 Volts DC & 21MA @ 90 Volts DC		
TUNING RANGE	Band #1 (540-1600KC) Band #2 (4-8MC) Band #3 (2-4MC)	Band #4 (17.4-18.2MC) Band #5 (14.8-15.6MC) Band #6 (11.5-12.1MC)	Band #7 (9.4-9.8MC)

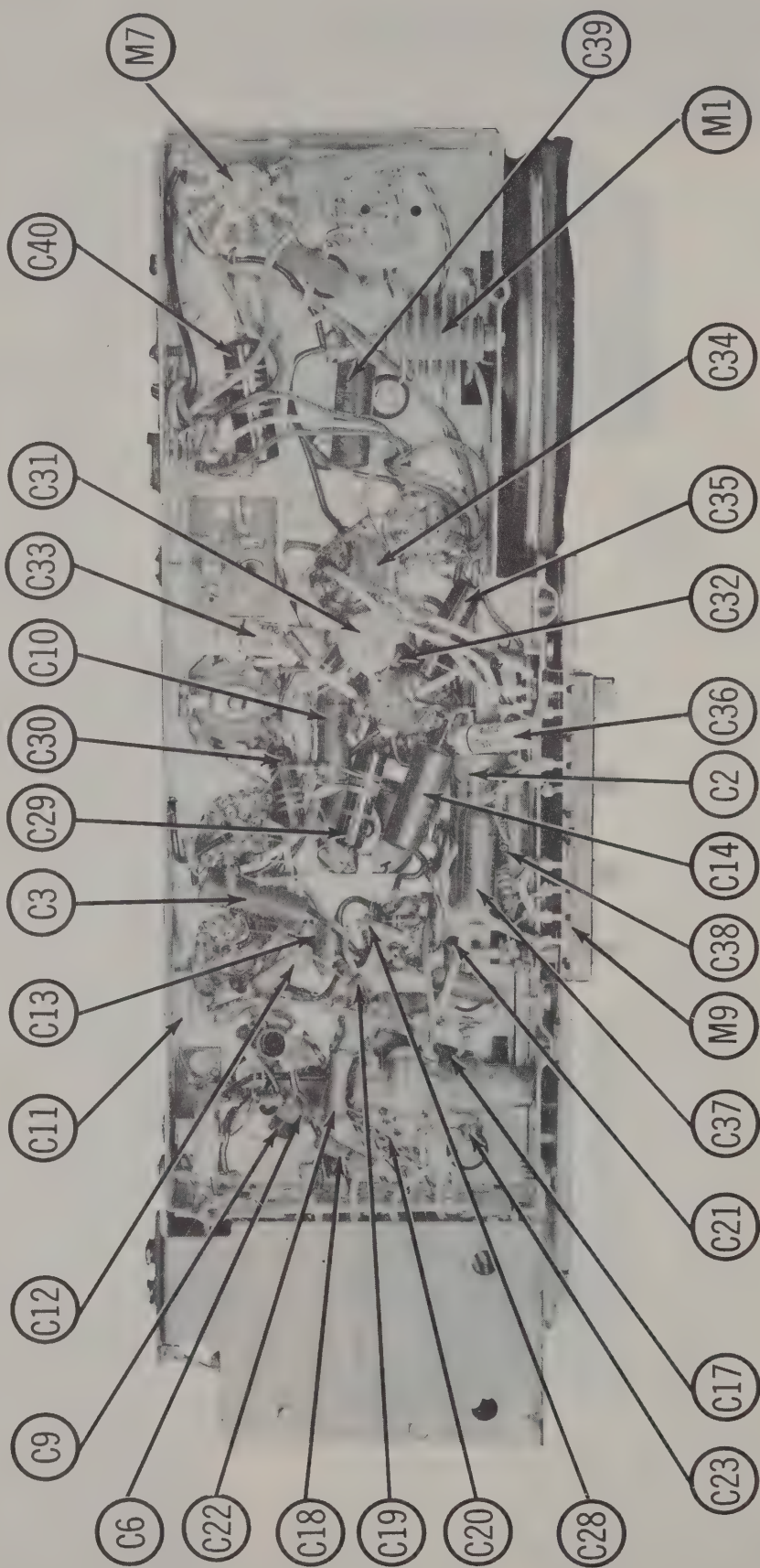
ZENITH MODEL
L600 (Ch. 6L40)



HOWARD W. SAMs & CO., INC. • Indianapolis 5, Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."
"Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1954 by Howard W. Sams & Co., Inc., Indianapolis 5, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

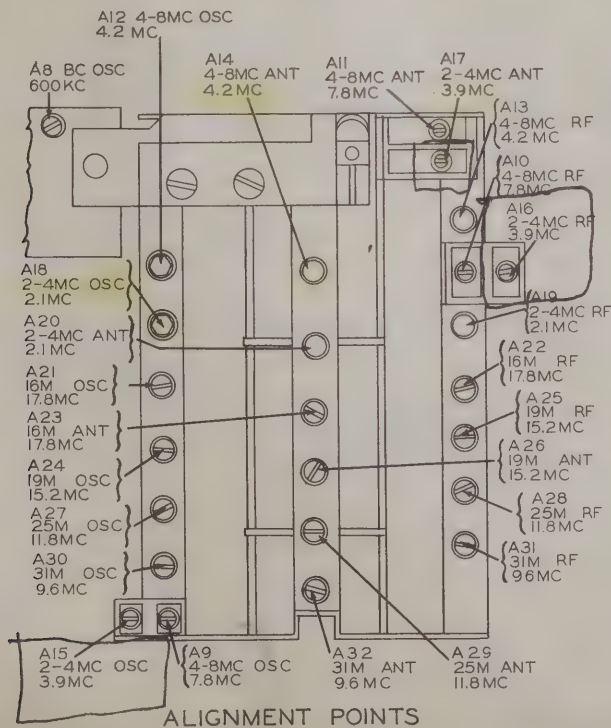
ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

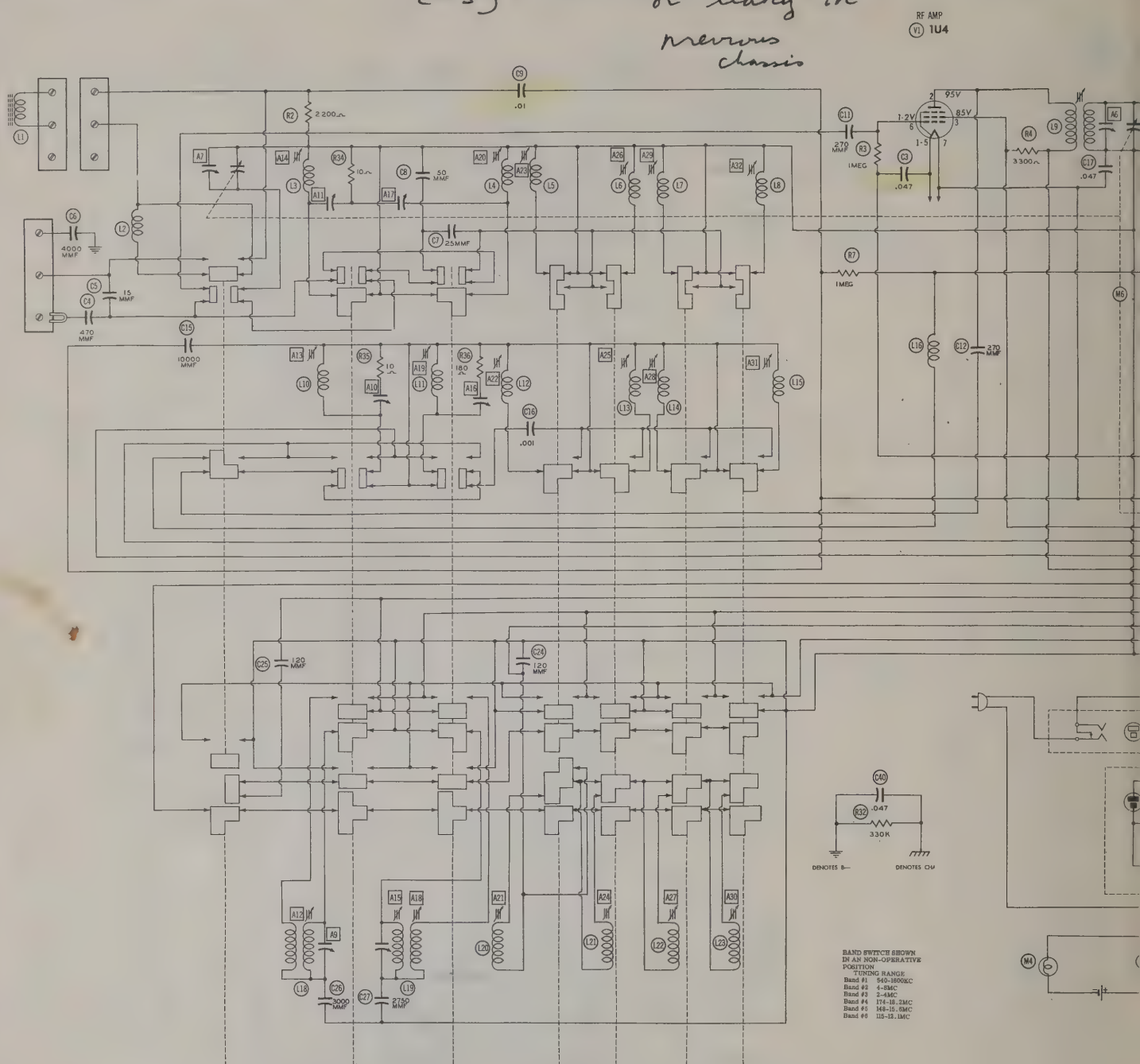
During alignment the chassis should be placed over a metal plate approximately the same distance that the battery pack would be from the bottom of the chassis when the chassis is in the cabinet.
Zenith alignment wrench #68-19, or equivalent, should be used to adjust the IF transformer cores.
With tuning gang fully closed set the dial pointer to "0" on the logging scale (top dial scale).
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Use battery power, if possible. If AC power is used, use an isolation transformer when available. If not, connect a .1MFD capacitor in series with low side of the signal generator and B-.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. .1MFD	High side to pin 6 (grid) of 1L6 (V2). Low side to pin 1 (negative side of filament).	455KC (400 μ Mod)	Broad-cast	600KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. If AC power is used without an isolation transformer, reduce dummy antenna to 200MMF to reduce hum modulation.
2.	Loop	1600KC	"	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	"	1400KC	"	1400KC	"	A6, A7	"
4.	"	600KC	"	600KC	"	A8	Adjust for maximum output while rocking tuning gang thru 600KC signal.
5.	High side to 3 foot length of wire placed one foot from extended wave rod.	7.8MC (400 μ Mod)	4-8MC	7.8MC	"	A9, A10, A11	Adjust for maximum deflection.
6.	"	4.2MC	"	4.2MC	"	A12	Adjust for maximum output while rocking tuning gang thru 4.2MC signal.
7.	"	"	"	"	"	A13, A14	Adjust for maximum output. Repeat steps 6 and 7.
8.	"	3.9MC	2-4MC	3.9MC	"	A15, A16, A17	Adjust for maximum output.
9.	"	2.1MC	"	2.1MC	"	A18	Adjust for maximum output while rocking tuning gang thru 2.1MC signal.
10.	"	"	"	"	"	A19, A20	Adjust for maximum output. Repeat steps 9 and 10.
11.	High side to 3 foot length of wire placed one foot from extended whip ant.	17.8MC (400 μ Mod)	16 meters	17.8MC	Across voice coil	A21, A22, A23	Adjust for maximum output while rocking tuning gang thru 17.8MC signal.
12.	"	15.2MC	19 meters	15.2MC	"	A24, A25, A26	Adjust for maximum output while rocking tuning gang thru 15.2MC signal.
13.	"	11.8MC	25 meters	11.8MC	"	A27, A28, A29	Adjust for maximum output while rocking tuning gang thru 11.8MC signal.
14.	"	9.6MC	31 meters	9.6MC	"	A30, A31, A32	Adjust for maximum output while rocking tuning gang thru 9.6MC signal.

NOTE: After reinstalling chassis in cabinet, switch to the broadcast band and tune in a weak station near 1400KC and retouch A7 for maximum volume.



poor sensitivity:
C-97 have been found open
C-3 } or leaky in
previous chassis



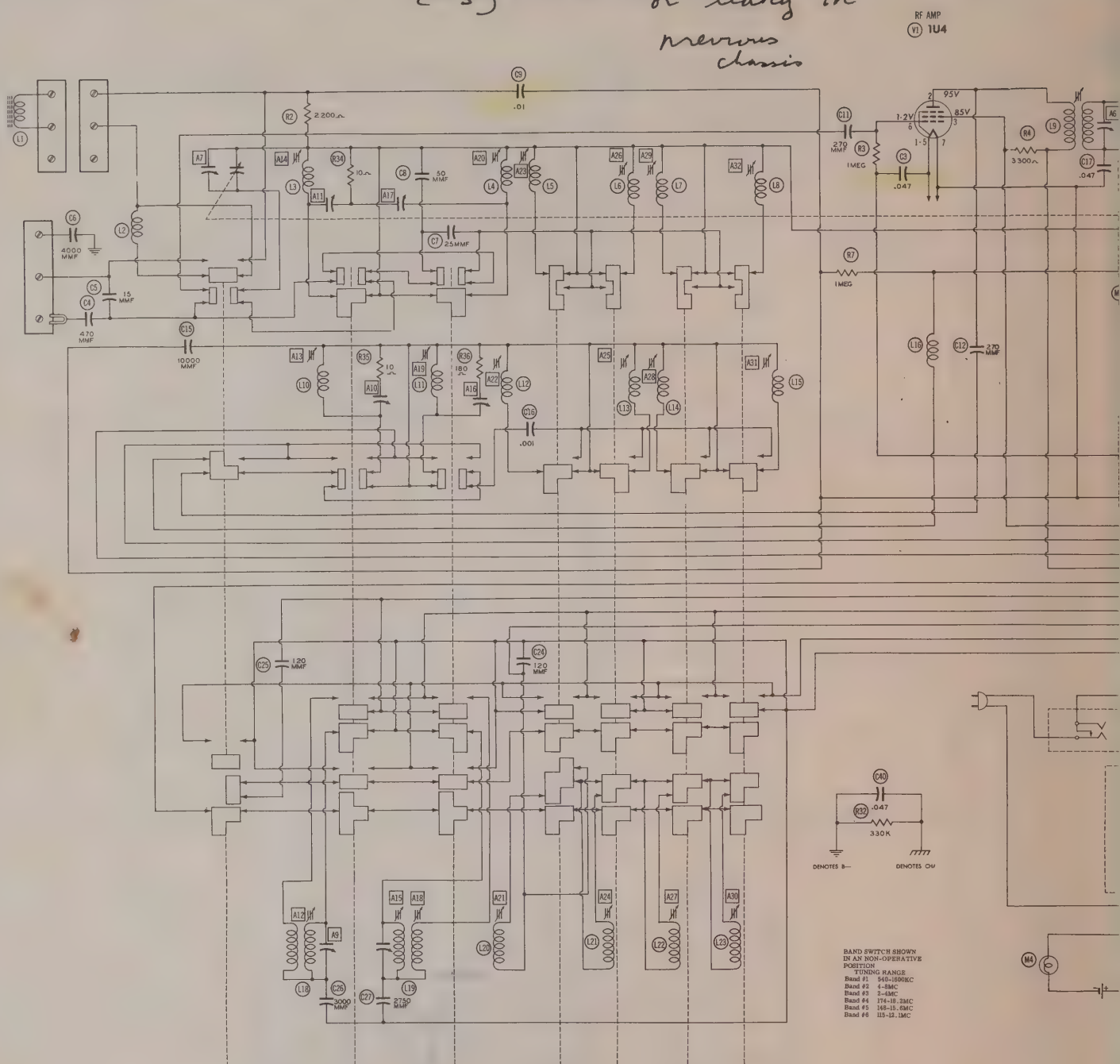
IF=455KC
THE COOPERATION OF THE MANUFACTURER OF THIS
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READING					
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4
V 1	1U4	*	$\uparrow 700\Omega$	$\uparrow 4K\Omega$	3.2Meg
V 2	1L6	*	$\uparrow 700\Omega$	$\uparrow 4K\Omega$	100K Ω
V 3	1U4	*	$\uparrow 1.7K\Omega$	$\uparrow 1.7K\Omega$	150 Ω
V 4	1U5	0 Ω	$\uparrow 1Meg$	$\uparrow 4.7Meg$	1Meg
V 5	3V4	*	$\uparrow 1K\Omega$	$\uparrow 700\Omega$	3.2Meg

* DO NOT USED OHMMETER TO MEASURE FILAMENT
 \uparrow MEASURED FROM OUTPUT OF M1

poor sensitivity:
 C-97 have been found open
 C-3 } or leaky in
 previous
 chassis



IF=455KC
 THE COOPERATION OF THE MANUFACTURER OF THIS
 RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

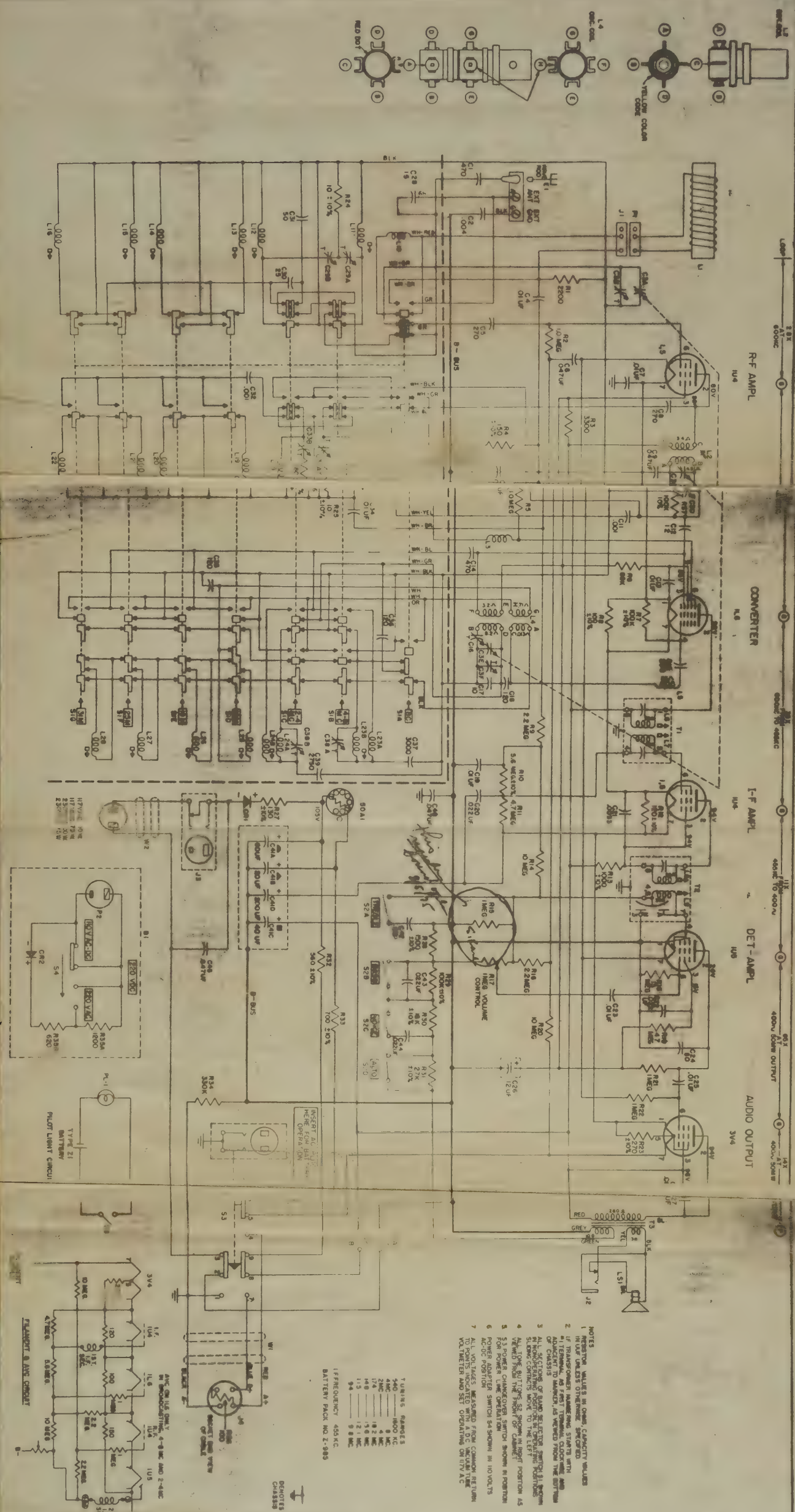
1. DC voltage measurements taken with vacuum tube voltmeter;
2. AC voltages measured at 1000 ohms per volt;
3. Socket connections are shown as bottom views;
4. Measured values are from socket pin to common negative;
5. Line voltage unstabilized at 117 volts for voltage readings;
6. Nominal tolerance on component values makes possible a variation of $\pm 1\%$ in voltage and resistance readings;
7. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READ

Item	Tube	Pin 1	Pin 2	Pin 3	Pin
V 1	1U4	*	$\uparrow 700\Omega$	$\uparrow 4K\Omega$	3.2M
V 2	1L6	*	$\uparrow 700\Omega$	$\uparrow 4K\Omega$	100K
V 3	1U4	*	$\uparrow 1.7K\Omega$	$\uparrow 1.7K\Omega$	150\Omega
V 4	1U5	0\Omega	$\uparrow 1Meg$	$\uparrow 4.7Meg$	1Meg
V 5	3V4	*	$\uparrow 1K\Omega$	$\uparrow 700\Omega$	3.2M

* DO NOT USED OHMMETER TO MEASURE FII
 \uparrow MEASURED FROM OUTPUT OF M1

MODEL L600
CHASSIS 6L40



When reinstalling the chassis in the cabinet be careful not to disturb the cabling between the short-wave coil assembly and chassis. Tune in a weak broadcast signal near 1400 Kc. and touch up trimmer C2. This will insure maximum performance after alignment.

Thermal Regulator Tube 50A1 is an automatic rheostat designed to keep the filament current at a definite value. Should the supply voltage change, either upward or downward,

NOTE: If Trimmers C2,C3,C4 are adjusted after procedures #2 through #15 are completed, it will be necessary to repeat alignment procedures #2 through #15.

TUBE, TRIMMER LOCATION AND DIAL CABLE DRAWING

TUBE, TRIMMER LOCATION AND DIAL CABLE DRAWING

Zenith

Trans ocean

7

8

1111



T RESISTANCE



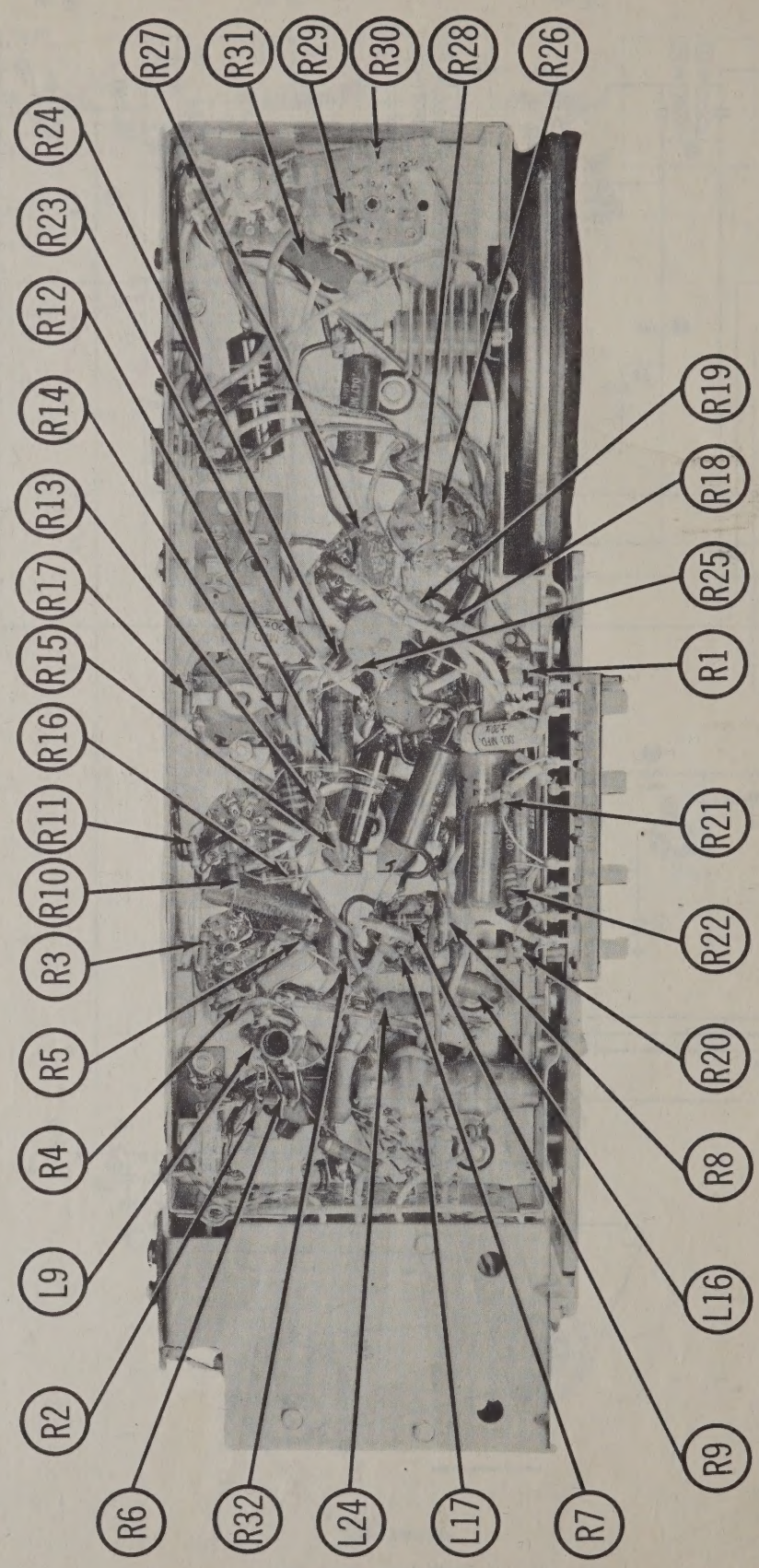
Zenith

Trans oceanic

2
9

1111

CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION



CHASSIS—TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	STANDARD REPLACEMENT	
V1	RF Amplifier	1U4	6AR	
V2	Converter	1L6	7DC	
V3	IF Amplifier	1U4	6AR	
V4	Det-AVC AF Amp.	1U5	6BW	
V5	Audio Output	3V4	6EX	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	VOLT	REPLACEMENT DATA				NOTES
			ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CONELL COBURNER PART No.	
C1A	.60	150	22-1741	AFH4-23		D030	
C1B	.40	150					
C1C	.20	150					
C1D	.10	150					
C2	12	500	22-2056	PRS150/12	DF-503	BR1215	
C3	.047	200	22-1778	P288-.047		P288-.047	
C4	.047	500	22-1390			SR5747	
C5	15	500	22-2329			SR5747	
C6	4000		22-4			K078	
C7	25		22-1392	BPD-.004	D6-150	GP1K-150	
C8	50		22-1761	SI25	D6-402	801-.004	
C9	.01	400	22-1764	SI50	D6-250	TP25	
C10	.01	400	22-1846	P488-.01	D6-500	GP1K-500	
C11	.01	400	22-2058	P488-.01	D6-103	CUB4S1	
C12	.01	400	22-2058		D6-103	GP2-333-103	
C13	.01	400	22-2058		D6-103	GP2-333-103	
C14	.01	400	22-2058		D6-103	GP2-333-103	
C15	.01	400	22-2058		D6-103	GP2-333-103	
C16	.01	400	22-2058		D6-103	GP2-333-103	
C17	.01	400	22-2058		D6-103	GP2-333-103	
C18	.01	400	22-2058		D6-103	GP2-333-103	
C19	.01	400	22-2058		D6-103	GP2-333-103	
C20	.01	400	22-2058		D6-103	GP2-333-103	
C21	.01	400	22-2058		D6-103	GP2-333-103	
C22	.01	400	22-2058		D6-103	GP2-333-103	
C23	.01	400	22-2058		D6-103	GP2-333-103	
C24	.01	400	22-2058		D6-103	GP2-333-103	
C25	.01	400	22-2058		D6-103	GP2-333-103	
C26	.01	400	22-2058		D6-103	GP2-333-103	
C27	.01	400	22-2058		D6-103	GP2-333-103	
C28	.01	400	22-2058		D6-103	GP2-333-103	
C29	.01	400	22-2058		D6-103	GP2-333-103	
C30	.01	400	22-2058		D6-103	GP2-333-103	
C31	.01	400	22-2058		D6-103	GP2-333-103	
C32	.01	400	22-2058		D6-103	GP2-333-103	
C33	.01	400	22-2058		D6-103	GP2-333-103	
C34	.01	400	22-2058		D6-103	GP2-333-103	
C35	.01	400	22-2058		D6-103	GP2-333-103	
C36	.01	400	22-2058		D6-103	GP2-333-103	
C37	.01	400	22-2058		D6-103	GP2-333-103	
C38	.01	400	22-2058		D6-103	GP2-333-103	
C39	.01	400	22-2058		D6-103	GP2-333-103	
C40	.01	400	22-2058		D6-103	GP2-333-103	

CONTROLS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA				INSTALLATION NOTES
			ZENITH PART No.	IRC PART No.	CENTRALAB PART No.	MALLORY PART No.	
RIA	1 Meg		63-2276	Q1-137	AB-69	U-54	Volume Attach to RIA
B	Shaft			KSS-3	AK-4	Not Req.	Attach to RIA
C	Switch			76-2	KB-2	US-27	

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	ZENITH PART No.	IRC PART No.	
R2	2200Ω		63-1800	BTS-2200	
R3	1 Meg		63-1912	BTS-1 Meg	
R4	3300Ω		63-1807	BTS-3300	
R5	150Ω		63-1750	BTS-150	
R6	100KΩ		63-1869	BTS-100K	
R7	1 Meg		63-1912	BTS-1 Meg	
R8	68KΩ		63-1863	BTS-68K	
R9	100KΩ		63-1869	BTS-100K	
R10	100Ω		63-1743	BTS-100	
R11	120Ω		63-1747	BTS-120	
R12	1000Ω		63-1765	BTS-1000	
R13	2.2Meg		63-1926	BTS-2.2Meg	
R14	10 Meg		63-1954	BTS-10 Meg	
R15	5.6Meg		63-1943	BTS-5.6Meg	
R16	4.7Meg		63-1940	BTS-4.7Meg	
R17	1 Meg		63-1912	BTS-1 Meg	
R18	2.2Meg		63-1926	BTS-2.2Meg	
R19	1500Ω		63-1792	BTS-1500	

Note 1. Some models may use a 15Meg resistor in this application.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA		NOTES
	PRI.	SEC.1	ZENITH PART No.	Stancor PART No.	
T1	9.8KΩ	3.5Ω	95-1369	Merit	
		SEC.2		Thordarson	
		14.2Ω		PART No.	
		REG.			

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		NOTES
	SIZE	FIELD	ZENITH PART No.	JENSEN PART No.	
SPI	5 1/4"	PM	3.5Ω	ST-303 Mod. p25-V	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.	
L1	Ant. Coil	.9Ω		S-20813		
L2	Ant. Loading	1.6Ω		S-20820	19-7047	
L3	Ant. Coil	.1Ω		S-18735		
L4	Ant. Coil	1.2Ω		S-18614		
L5	Ant. Coil	.2Ω		S-17718		
L6	Ant. Coil	.2Ω		S-17719		
L7	Ant. Coil	.2Ω		S-17720		
L8	Ant. Coil	.3Ω		S-17721		
L9	RF Coil	.4Ω	6Ω	S-20844		
L10	RF Coil	.1Ω		S-18615		
L11	RF Coil	1.2Ω		S-18614		
L12	RF Coil	.2Ω		S-17714		
L13	RF Coil	.3Ω		S-17715		
L14	RF Coil	.3Ω		S-17716		
L15	RF Coil	.4Ω		S-17717		
L16	RF Coupling	.2Ω		S-20843		
L17	Osc. Coil	Pri.1= 3.5Ω Pri.2= .8Ω		S-17709		

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.	
L18	Osc. Coil	.8Ω	.1Ω	S-17730		
L19	Osc. Coil	.7Ω	.4Ω	S-17731		
L20	Osc. Coil	.1Ω		S-17726		4-8MC
L21	Osc. Coil	.1Ω		S-17727		2-4MC
L22	Osc. Coil	.2Ω		S-17728		17.4-18.2MC
L23	Osc. Coil	.3Ω		S-17729		14.8-15.6MC
L24	Osc. Coupling	.2Ω		S-14403		11.4-12.2MC
L25	Input IF	27Ω	25Ω	95-1148	10-1003	9.3-9.9MC
L26	Output IF	24Ω	23Ω	95-1149	10-6666	4 Microhenries

* Drill mounting hole.

† Use adaptor plate.

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA		NOTES
		FEDERAL PART No.	INTERNATIONAL PART No.	
M1	.071A	212-13	RS100	
		212-7	6S100	

BATTERIES

ITEM No.	VOLTAGE	ZENITH PART No.	REPLACEMENT DATA			INSTALLATION NOTES
			EVEREADY	"A.B"	"B"	
M2	9V "A"	Z-985X	"A"	"A.B"	"B"	
M3	1.5V	Z-1		752	G6B80	Pilot light battery

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	"A.B"	
M4	Dial light	100-171			
M5	Tube	100-162			# 222 screw base
M6	Tuning cap	22-2520			Ballast 50A1
M7	Switch	85-543 or 85-520			3 sections at 16-462MMF each
M8	Switch	85-542			Power changeover
M9	Switch	85-503			Momentary contact (dial light)
M10	Switch	S-20821			Tone-4 used
					Push button band selector including bracket & coil assembly
					Push switch only-part of S-20821 - 7 used
					Bandswitch mounting bracket & terminals part of S-20821
					Single section (4-8MC osc. coil adjust)
					Dual section (2-4, 4-8MC osc. RF coil adjust)
					Dual section (2-4, 4-8MC osc. RF coil adjust)
					Telescoping assembly
					14-1633
					46-912
					46-913
					46-1242